

**APPENDIX B
FEDERAL MITIGATION BANK INSTRUMENT
FDEP MITIGATION BANK PERMIT**

DEVIL'S SWAMP MITIGATION BANK

As part of the development of the U.S. Army Corps of Engineers' Regional General Permit (RGP) SAJ-86 (SAJ-2004-1861) and Florida Department of Environmental Protection's Ecosystem Management Agreement (EMA), the St. Joe Company elected to establish two mitigation banks to serve different basins within the RGP/EMA area. Both Federal and State agencies participated in the review of both the RGP/EMA and the mitigation banks as a Mitigation Bank Review Team (MBRT). The Devil's Swamp Mitigation Bank (DSMB) will serve the Devil's Swamp basin within the RGP/EMA. Authorizations for mitigation banks follow slightly different procedures and formats for the respective state and federal approvals. However, the actual activities, conditions and expected results are substantively the same. Therefore, this document will serve as both the federal Mitigation Bank Instrument (MBI) (SAJ-2004-1864) and the state Mitigation Bank Permit (0227475-001) (the "Permit"). The format of this document basically follows the federal MBI with some modifications to accommodate separate procedures. The state permit authorizes the mitigation bank implementation and operation, as well as the dredge and fill activities associated with it. However, the federal MBI requires an additional authorization for the actual dredge and fill activities associated with the bank, which will be in the form of a Nationwide Permit 27. Therefore, there are portions of the document specific to the state or federal MBI/Permit. These items will be specifically identified by a preface of either U.S. Army Corps of Engineers (Corps) or Florida Department of Environmental Protection (FDEP).

Corps: This MBI regarding the establishment, use, operation, and maintenance of DSMB is made and entered into by and among The St. Joe Company (hereinafter, Sponsor), the Corps, the U.S. Environmental Protection Agency (EPA), and the U.S. Fish and Wildlife Service (FWS). These agencies along with FDEP participated as the MBRT.

FDEP: This mitigation bank permit is issued under the authority of Part IV of Chapter 373, Florida Statutes (F.S.) and Chapter 62-342, Florida Administrative Code (F.A.C.). It constitutes all necessary permits under Part IV of Chapter 373, F.S. It also constitutes certification of compliance with state water quality standards pursuant to Section 401 of the Clean Water Act, 33 U.S.C. 1341. Where applicable (such as activities in coastal counties), issuance of the wetland resource permit also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Management Act.

I. PREAMBLE

A. Purpose: The purpose of this MBI/Permit is to establish guidelines and responsibilities for the establishment, use, operation, and maintenance of the Devil's Swamp Mitigation Bank. The DSMB will be used for compensatory mitigation for unavoidable impacts to waters of the State and United States, including wetlands, which result from activities authorized under the RGP and/or EMA to compensate for the loss of wetland functions within the Devil's Swamp basin.

B. Location and Ownership of Parcel: The St. Joe Company (Sponsor) owns 3,049.2 acres of land along Steele Field Road in Section 31, Township 1S, Range 18W, and Section 6-7, Township 2S, Range 18W in Bay County; and Sections 34-36, Township 2S, Range 18W, and Sections 1, 2, 11, and 12, Township 3S, Range 18W in Walton County, Florida, (FDEP Class III Waters). The proposed project is located north of the Intracoastal Waterway (ICW), south of Steele Field Road, about 5 miles east of Choctawhatchee Bay, and about 7.5 miles west of State Road (SR) 79 (Exhibit B-1-1).

C. Project Description: The Sponsor shall preserve, enhance and maintain the bank site by the removal of inappropriate vegetation and discontinuation of timber operations, the improvement of hydrology through low-water crossing and culvert installation, and by the implementation of an interim and long-term restoration management plan including prescribed burns. The Sponsor shall conduct these compensatory mitigation activities in accordance with the provisions of this MBI/Permit and its Attachments. The entire Bank consists of a total of 3,049.2 acres, but may be implemented in three discrete phases. The compensatory mitigation plan is expected to result in the restoration or enhancement of a mosaic of hydric pine flatwoods, savannah, mixed forested wetland, cypress swamp and upland pines.

D. Baseline Conditions: Historically, this site was a mosaic of hydric and mesic pine flatwoods with broad areas of mixed forested wetlands and cypress swamps, savannahs, and xeric pine communities. During the 1960s and 1970s, much of the proposed mitigation bank was planted in slash or sand pine plantation for silviculture. Approximately 54.4% and 4.5% of the site, respectively, is currently planted in pines of various ages (~5 years to 25 years)(Exhibit B-1-2). Some of the older plantings have recently been thinned every third row. Most of the site was furrowed during planting, and furrow depths are typically 6 to 8 inches deep. The understory/ground cover varies from open herbaceous to very dense thickets of hydric shrubs, primarily titi (*Cliftonia monophylla*). Due to fire suppression, shrub percent cover is much higher than would naturally occur in the historical natural communities. There has been no infrastructure constructed on the site other than logging roads and ditches to support silviculture.

In addition to the planted pine, other communities include titi swamp, shrub swamp, and cypress swamp (Table B-1 and Exhibit B-1-5). The planted pines occur primarily in historical hydric and mesic pine flatwoods, xeric sandhills, and savannah. Habitats on the property vary in quality from excellent to poor depending on the effects of management for pine silviculture. The degree of infestation by exotic or nuisance plant species is negligible.

In general, the current and historical communities at the bank site are typical of those in the RGP/EMA area. They are described in greater detail in Attachment B-1.

Table B-1. Devil's Swamp Mitigation Bank Existing Land Use

FLUCFCS Code	FLUCFCS Description	Total Acres	Percent of Pre-Restoration Wetlands	Percent of Pre-Restoration Site
441	Upland Pine Plantation	1,166.7	0.0	38.3
441H	Hydric Pine Plantation	627.0	34.2	20.6
533	Reservoir	4.8	0.3	0.2
614	Titi Swamp	713.4	38.9	23.4
621	Cypress Swamp	12.2	0.7	0.4
632	Shrub Swamp	477.4	26.0	15.7
814	Roads	47.6	0.0	1.6
TOTAL		3,049.2	100.0	100.0

E. Establishment and Use of Credits: In accordance with the provisions of this MBI/Permit and upon satisfaction of the success criteria contained herein, a total of 526.8 freshwater credits will be available to be used as compensatory mitigation in accordance with all applicable requirements. Credits are in the form of functional units pursuant to the Wetland Rapid Assessment Procedure (WRAP), as described in *Technical Publication REG-001 Wetland Rapid Assessment Procedure (WRAP) (Miller and Gunsalus, September, 1997)*, and as applied during the assessment of the wetlands within both the bank and RGP/EMA area. The credit assessment is described in detail in Attachment A-4.

F. The bank is for general use within the Devil's Swamp watershed portion of the area covered by the RGP. The St. Joe Company is the sponsor of the DSMB.

G. The Mitigation Banking Review Team (MBRT) consists of:

1. U.S. Army Corps of Engineers, Jacksonville District (Corps), Chair.
2. U.S. Environmental Protection Agency, Region IV (EPA).
3. U.S. Fish and Wildlife Service, Panama City Field Office (FWS).
4. Florida Department of Environmental Protection, Pensacola and Tallahassee (FDEP), Co-chair.

The bank sponsor has demonstrated through review by the MBRT that the DSMB meets both federal and state criteria for establishment of a mitigation bank.

H. Corps: Disclaimer: This MBI does not in any manner affect statutory authorities and responsibilities of the signatory parties.

I. Exhibits: The following exhibits are incorporated as attachments to this MBI/Permit:

Attachment B-1	Compensatory Mitigation Plan
Exhibit B-1-1	Location and Service Area Map
Exhibit B-1-2	Aerial Photo, 1999
Exhibit B-1-3	Quad Topography Map
Exhibit B-1-4	Soils Map
Exhibit B-1-5	Existing Land Use and Land Cover
Exhibit B-1-6	Proposed Land Use and Land Cover
Exhibit B-1-7	Phases, Hydrologic Improvements, and Monitoring Locations
Exhibit B-1-8	Historic Aerial, 1949
Exhibit B-1-9	Turbidity Details
Exhibit B-1-10	Existing Land Use and Land Cover (11x17 color)
Exhibit B-1-11	Proposed Land Use and Land Cover (11x17 color)
Attachment B-2	Fire Management Plan
Attachment B-3	Security Plan
Attachment B-4	WRAP Analysis
Attachment B-5	Site Suitability Index
Attachment B-6	Ledger
Attachment B-7	Desirable Species Lists
Attachment B-8	Monitoring Plan
Attachment B-9	Hydrologic Restoration Plan
Attachment B-10	References

Attachment B-11	Real-Estate Provisions
Attachment B-12	Financial Assurance
Attachment B-13	Hunting Lease Conditions
Attachment B-14	Cost Estimate
Attachment B-15	Principles for Forest and Wildlife Management

II. AUTHORITIES

The establishment, use, operation, and maintenance of the Bank is carried out in accordance with the following authorities:

- A. Corps (Federal):
 - 1. Clean Water Act (33 USC 1251 et seq.)
 - 2. Rivers and Harbors Act (33 USC 403)
 - 3. Fish and Wildlife Coordination Act (16 USC 661 et seq.)
 - 4. Regulatory Programs of the Corps of Engineers, Final Rule (33 CFR Parts 20-330)
 - 5. Guidelines for Specification of Disposal Sites for Dredged and Fill Material (40 CFR Part 230)
 - 6. Memorandum of Agreement between the Environmental Protection Agency and FDEP concerning the Determination of Mitigation Under the Clean Water Act, Section 404 (b)(1) Guidelines (February 6, 1990)
 - 7. Federal Guidance for the Establishment, Use, Operation of Mitigation Banks (60 F.R. 58605 et seq.)
- B. FDEP (State):
 - 1. Part IV of Chapter 373, Florida Statutes (F.S.)
 - 2. Chapter 62-342, Florida Administrative Code (F.A.C.)
 - 3. Section 401 of the Clean Water Act, 33 U.S.C. 1341
 - 4. Section 307 of the Coastal Management Act

These parties agree to the following:

III. ESTABLISHMENT OF THE BANK

- A. The Sponsor agrees to perform all necessary work, in accordance with the provisions of this MBI/Permit and its Attachments, until it is demonstrated to the satisfaction of the authorizing agencies that the project meets the success criteria contained herein, and to maintain these conditions in perpetuity according to Part V Section G.
- B. The Sponsor will obtain all appropriate environmental documentation, permits or other authorizations needed to establish and maintain the Bank. This MBI/Permit may not fulfill or substitute for all required authorizations.
- C. Establishment of the Bank will be performed in three phases as described in the Compensatory Mitigation Plan (Attachment B-1), and the credits will become available in accordance with the schedule specified in Part IV, Section F of this MBI/Permit. In the event the Sponsor determines that modifications must be made in the MBI/Permit or the Compensatory Mitigation Plan to ensure successful establishment of habitat within the Bank, the Sponsor shall submit a written request for such modification to the MBRT for approval.

FDEP: For the state, this request shall be in the form of a major or minor modification with appropriate fee to be submitted to the FDEP Office of Submerged Lands and Environmental Resources in Tallahassee. The request will be reviewed in accordance to the procedures and timetables established in Ch. 120, F.S.

D. Financial Assurance Requirements.

1. Implementation Phase. The Sponsor shall provide FDEP with the financial responsibility mechanisms for the bank or phase thereof as required by Rule 62-342.700 F.A.C. The Sponsor shall secure financial assurance for construction activities, monitoring, maintenance, and reporting prior to success, and for long-term management activities after the bank has reached success.

The Sponsor shall establish FDEP-approved financial assurance for the construction and implementation of each phase at least 30 days prior to initiation of construction or release of credits for that phase. This assurance shall be in the form of performance bonds payable into a contemporaneously established Standby Trust Account (Attachment B-12). The amount of the performance bonds is based on 110% the estimated costs for construction, monitoring and maintenance prior to success, as shown in the table below by phases. The Sponsor may request a partial reduction in the amount of the construction assurance after the successful completion of implementation activities, as defined below. The Sponsor may request a release from its construction financial assurance obligation upon the determination that the bank has reached success criteria and the long-term management has been properly funded.

Financial Assurance Cost per Phase

Phase	Implementation Cost Estimate	110% of Estimate
1	\$485,904	\$534,495
2	\$524,727	\$577,200
3	\$256,459	\$282,105
Total	\$1,267,090	\$1,393,799

2. Perpetual Management Phase. Thirty days prior to the debit of mitigation credits, the bank sponsor shall establish a Standby Trust Fund Agreement (Attachment B-12) for the bank or phase thereof to be funded by either a bond, letter of credit, or cash for each phase, in the amount of \$199.34 per acre, that is in the form of FDEP's approved forms for such mechanisms to implement the terms of the perpetual management plan for the bank.

3. Adjustments. The Sponsor shall be the responsible party for long-term management until the permit and the fully funded long-term management trust are transferred to a different long-term manager. The Sponsor shall provide FDEP with proof of permit and trust compliance prior to this transfer.

All cost-estimates shall be reviewed and appropriate financial responsibility instruments adjusted every two years in accordance with Rule 62-342.700 (11) F.A.C. In addition, the Sponsor shall conduct another cost estimate during the establishment of final construction plans, accounting for any changes in construction and implementation costs required by other permits or conditions, weather, contractors costs, and other such costs. Any significant change in the cost estimate (>10%) may result in a modification to the required deposits into the financial responsibility instruments.

E. Real Estate Provisions: Prior to any construction activities or release of credits, the Sponsor shall cause the property on which the Devil's Swamp Mitigation Bank or phase thereof is to be implemented to be preserved and protected in accordance with a conservation easement granted to FDEP and the Northwest Florida Water Management District (NFWFMD), with rights of enforcement to the Corps, as well. A copy of the draft language to be used for this conservation easement has been approved by the MBRT (Attachment B-11). However, prior to recording the Conservation Easement, the sponsor shall submit a final draft of the CE to the FDEP Office of Submerged Lands and Environmental Resources in Tallahassee along with:

1. A title insurance policy for the easement to be updated to the date of conveyance.
2. Subordination, release, or joinder agreements for any lien on the property, as identified by the Title Commitment, unless such lien does not adversely affect the ecological viability of the Bank (Rule 62-342.650 F.A.C.).
3. Legal descriptions and sketches of the conservation easement certified by a Florida registered land surveyor.

After agency approval, the easement shall be recorded and a clerk-of-the-court certified copy of the conservation easement shall be submitted.

F. Harvesting Requirements: The Sponsor agrees to remove planted pine in accordance with the Compensatory Mitigation and Principles for Forest and Wildlife Management (Attachments B-1 and B-16) and consistent with the restoration goals and timing defined in this MBI/Permit and Attachments. While traditional timber equipment may be used and marketable pine may be sold, the primary consideration for methods, species and density harvested, and timing of harvesting activities shall be for the restoration goals stated herein. All harvesting activities within a phase shall be completed and documented with harvest records, ground and aerial photographs, and a site visit prior to the release of credits associated with this activity.

G. Fire Management: The Sponsor agrees to implement a fire management plan in accordance with the Compensatory Mitigation and Fire Management Plans (Attachments B-1 and B-2) and consistent with the restoration goals and timing defined in this MBI/Permit and Attachments. At least 80% of the acreage in appropriate communities within a phase shall have been burned and documented with prescribed burn records, ground and aerial photographs, and a site visit prior to the release of credits associated with this activity.

H. Construction Requirements: The sponsor shall conduct the construction activities defined in Attachment B-9 and Exhibit B-1-7 to deter drainage from the site and enhance hydrologic connections. The activities planned for the site are installation of hardened low water crossings and bermed weir structures (Exhibit B-1-7). The Sponsor shall conduct all construction activities in accordance with BMPs regarding turbidity (Exhibit B-1-9), including timing these operations for low water conditions. Based on continued field data collection results during the first few years of the project, invert elevations of the structures will be manipulated, in consultation with the authorizing agencies to verify the final elevations for each structure. If these elevations differ from the as-built certification, a minor modification of the permit will be required.

The Sponsor agrees to submit as-built certifications, prepared by an engineer licensed in the State of Florida for each phase of the Bank within 60 days following completion of the construction portion of that phase of bank. The as-built report will describe in detail any deviation from the construction plans and figures for implementation activities within each phase (Attachment B-9) and a plan showing finished grades, and surface and groundwater elevations,

as appropriate. Approval of the as-built report shall be required prior to the credit release associated with Hydrologic Improvements on the Credit Release Table in Part IV, Section F(1).

I. Work Schedule: Restoration activities will be performed in phases, which are defined by geographical areas (Exhibit B-1-7) and would be stand-alone projects should the entire bank not be completed. Work begins on Phase 1 in year 1 with selective logging, shrub and brush removal, and initial burning, then installation of the hydrologic improvements and exotic control activities as detailed below. Other phases are anticipated to follow a similar schedule, with each successive phase being initiated on a yearly basis, as presented in the following table. However, the Sponsor, in consultation with the authorizing agencies, may elect to postpone the initiation of a phase. Conversely, the conservation easement and financial assurances may be implemented in advance of other implementation steps. Once initiated, the physical mitigation activities in the phase shall proceed in a timely manner, in accordance with the attached schedule (Attachment B-1).

IV. OPERATION OF THE BANK

A. Mitigation Service Area (MSA): The bank is established to provide compensatory mitigation for impacts to the waters of the State and United States, including wetlands, within the Devil's Swamp basin of the geographic area covered by RGP area. The MSA for the Devil's Swamp Mitigation Bank is located within Bay and Walton Counties as shown in Exhibit B-1-1.

B. The Sponsor will allow, or otherwise provide for, access to the site by the MBRT, as necessary, for the purpose of inspection and compliance monitoring consistent with the terms and conditions of this MBI/Permit. Inspecting parties shall provide reasonable notice, of not less than 24 hours, to the Sponsor, prior to inspection of Bank.

C. Projects Eligible to Use the Bank. Projects within the MSA authorized by the RGP and/or the EMA may use credits from this mitigation bank. The Corps and FDEP, in consultation with the other regulatory and resource agencies, will determine, on a case-by-case basis, the eligibility of projects within the MSA that do not qualify for either the RGP or EMA.

D. Assessment Methodology: Credits and debits will be assessed using WRAP.

1. Credits. The total number of potential of credits was determined by the WRAP methodology and the application of a Mitigation Bank Suitability Index (MBSI), and then assessed for time-lag and risk, with methodologies detailed in Attachments B-4 and B-5. A total potential of 526.8 freshwater credits can be allocated to the bank. These credits will be released and withdrawn in accordance with Part IV, Section F.

2. Debits. For purposes of offsetting impacts to low quality wetlands, as identified within the RGP and EMA, 0.65 credits per acre of impact must be debited from the bank. For purposes of offsetting impacts to high quality wetlands, 0.92 credits per acre of impact must be debited from the bank. Because the credits from this mitigation bank have been assessed for time lag and risk, these factors shall not be considered for impact permits.

E. Success Criteria: The compensatory mitigation for each phase shall be determined to be successful when all of the performance standards defined below have been met. Upon the determination of success, the phase may be released from the monitoring requirements in Part V, Section B, and the long-term management plan and inspections may be implemented as described in Part V, Section G.

1. Procedures.

- a. Whenever the bank sponsor believes the mitigation bank or phase thereof has attained final success, as defined herein, they shall request a determination of success.
FDEP: For the state, this request shall be in the form of a minor modification with an appropriate fee, which shall be reviewed in accordance with Chapter 120, FS.
Corps: The notice shall be sent by certified mail to the Corps Panama City and Jacksonville offices.
- b. The request for success determination shall be supported by documentation provided by the bank sponsor that the implementation of the project has been in accordance with the plans herein. The bank sponsor shall afford MBRT members the opportunity to schedule and conduct an on-site inspection of the mitigation area under review to verify that the criteria are met.
- c. Corps: Within thirty (30) days of receipt of this notice (except with good cause), the Corps shall notify the bank sponsor by certified mail that the Corps determined either that the compensatory mitigation has been successfully completed; or that the compensatory mitigation is not successful, identifying specifically those elements of the compensatory mitigation that do not meet the performance standards.

2. Final Success Criteria. The bank or phase thereof shall be deemed successful when all of the following criteria have been met after a period of at least one full year without intervention in the form of artificial manipulation of water levels or replanting of desirable vegetation. The bank shall enhance or restore the following polygon types: mixed forested wetland, cypress swamp, savannah, hydric pine flatwoods, and upland pines as shown on Exhibit B-1-6. This plan was developed using historical aerial photographs, soils maps, and existing condition observations. As such, the expectation of actual area for each type of system is approximate. The ultimate goal of the plan is to restore natural processes to the site such that a self-sustaining, functioning ecosystem results. This concept shall override the specific acreage requirements in a general fashion.

a. Community Requirements

Mixed Forested Wetland and Cypress Swamps

1. Approximately 1147 and 74 acres (+/- 20%) shall be restored or enhanced to jurisdictional mixed forested wetland and cypress swamps, respectively, as described in Attachment B-1 and documented by monitoring data and ground and aerial photography.
2. Non-nuisance, native wetland ground and shrub species are healthy, reproducing naturally and exhibiting the cover and diversity typical of habitat as described in Attachment B-1 and reference wetland data, such as found in Florida Natural Areas Inventory natural community descriptions* or other such literature. This ground cover shall be 75% or greater (except in open water area) when canopy cover is less than 30% due to immature trees. As canopy matures, lower percentage ground cover may be appropriate due to shading, and this decrease will not preclude a success determination.
3. The desirable canopy tree cover is increasing annually. Success will be considered achieved when at least 30% canopy cover has been achieved, not including shrub species, such as titi.

* FNAI and Florida Department of Natural Resources. 1990. Guide to the Natural Communities of Florida. February.

4. The plants are reproducing naturally, either by normal, healthy vegetative spread (in ways that would be normal for each wetland species) or through seedling establishment, growth and survival.

Savannahs and Hydric Pine Flatwoods:

1. Approximately 391 and 838 acres (+/- 20%) shall be restored or enhanced to jurisdictional savannahs and hydric pine flatwoods, respectively, as described in Attachment B-1 and documented by monitoring data and ground and aerial photography.
2. Gallberry, yaupon, wax myrtle, titi, fetterbush, and other woody shrubs shall be no taller than the coppice sprouts that could have arisen from root crowns following the most recent fire.
3. Each sampling quadrat shall contain at least 75 desirable species (Attachment B-7, plant list). Some species not listed may be determined to be desirable for the purpose of this condition by providing a citation and/or third party professional botanist/ecologist determination, and, upon concurrence by MBRT, will thereafter be added to the list.
4. The average cover of graminoids shall be 75% or greater, with no one monitoring quadrat having less than 50% cover, and the collective cover of pioneer *Andropogon* spp. (except *A. liebmanni*) shall not exceed 25% of the graminoids found in each polygon. Additionally, each quadrat shall either attain at least 85% coverage with graminoid species or shall exhibit a clear trend over time of increasing graminoid coverage.
5. The plants are reproducing naturally, either by normal, healthy vegetative spread (in ways that would be normal for each wetland species) or through seedling establishment, growth and survival.
6. To be considered savannahs, basal area shall be less than 40 sq ft/ac, which is expected to be contained in an average of less than 28 desirable trees per acre. Greater canopy coverage would be considered pine flatwoods.
7. For hydric pine flatwoods, the desirable canopy trees are trending toward a basal area of 40 to 70 sq ft/ac, as evidenced by annual increase, which is expected to be contained in an average of about 60 to 112 trees per acre.

Upland Pines:

1. Approximately 545 acres (+/- 20%) shall be restored or enhanced to upland pines, as described in Attachment B-1 and documented by monitoring data and ground and aerial photography.
2. Each sampling quadrat shall contain at least 25 desirable species, fewer species being sufficient in xeric sand pine communities (Attachment B-7, plant list). Some species not listed may be determined to be desirable for the purpose of this condition by providing a citation and/or third party professional botanist/ecologist determination, and, upon concurrence by MBRT, will thereafter be added to the list.
3. The average cover of graminoids shall be at least 30%, with no one monitoring quadrat having less than 20% cover, the lower percent covers being sufficient in xeric sand pine communities. The collective cover of pioneer *Andropogon* spp. (except *A. liebmanni*) shall not exceed 25% of the graminoids found in each polygon. Additionally, each quadrat shall either attain at least 50% coverage with graminoid species or shall exhibit a clear trend over time of increasing graminoid coverage.

4. The plants are reproducing naturally, either by normal, healthy vegetative spread (in ways that would be normal for each wetland species) or through seedling establishment, growth and survival.
5. The desirable canopy trees, including longleaf pines, are trending toward a basal area of 40 to 70 square feet per acre, as evidenced by annual increase, which is expected to be contained in an average of about 60 to 112 trees per acre .

b. Compliance: All of the graded areas in the bank are stabilized. The low water crossing areas are effectively curtailing any channelized drainage from the site and have required no repairs beyond minor maintenance specified in Part V, Section A.2.e for at least three years. The Sponsor is in material compliance with the terms of this MBI/Permit.

c. WRAP Assessment: The Sponsor and the MBRT shall inspect the site and, utilizing the monitoring data and reports, conduct a WRAP analysis to determine that, under the permitted maintenance requirements, all polygons have reached, or are expected to reach and maintain, the criteria required to attain the "with bank" scores, as shown in Attachment B-4, that were used to determine the potential credits for the bank.

d. Nuisance species: Nuisance and exotic species are limited to 5% or less of total cover/acre, out of which exotic species are limited to 1% or less of the total cover/acre.

3. Interim Success Criteria: Prior to achieving the final success criteria described in Section E(2) above, and in order to qualify for the interim credit releases associated with "Performance Standards, Year X" in the release schedule in Section F.1. below, the standards that must be attained are:

a. All communities have reached their respective success criteria or are progressively and clearly trending toward these criteria, as supported by monitoring data and ground and aerial photography and verified by an on-site inspection by the MBRT.

b. At a minimum, the herbaceous ground cover of savannahs and hydric pine flatwoods communities shall attain the following standards:

- Year 1: Monitoring quadrats shall average at least 25 species from the list of desirable species and attain at least 40% cover with non-nuisance vegetation, of which 20% or more shall be graminoid species.
- Year 2: Monitoring quadrats shall average at least 40 species from the list of desirable species and attain at least 50% cover with non-nuisance vegetation, of which 30% or more shall be graminoid species.
- Year 3: Monitoring quadrats shall average at least 50 species from the list of desirable species and attain at least 60% cover with non-nuisance vegetation, of which 40% or more shall be graminoid species.
- Year 4: Monitoring quadrats shall average at least 60 species from the list of desirable species and attain at least 70% cover with non-nuisance vegetation, of which 60% or more shall be graminoid species.

c. At a minimum, the herbaceous ground cover of upland pine communities shall attain the following standards:

- Year 1: Monitoring quadrats shall average at least 10 species from the list of desirable species and attain at least 30% cover (15% sufficient in xeric sand pine communities) with non-nuisance vegetation, of which 20% or more shall be graminoid species.

- Years 2 and 3: Monitoring quadrats shall average at least 15 species from the list of desirable species and attain at least 40% cover (15% sufficient in xeric sand pine communities) with non-nuisance vegetation, of which 25% or more shall be graminoid species.
- Year 4: Monitoring quadrats shall average at least 20 species (15 sufficient in the xeric pine communities) from the list of desirable species and attain at least 50% cover with non-nuisance vegetation, of which 30% or more shall be graminoid species.

d. The bank is in compliance with the terms of this agreement.

F. Schedule of Credit Availability: Upon submittal of all appropriate documentation by the Sponsor, and subsequent approval by the Corps and FDEP, in consultation with the other members of the MBRT, it is agreed that credits will become available for use by the Sponsor or for transfer to a third party in accordance with the following schedule:

1. Credit Release Schedule. Mitigation credits shall be released from the bank or phase thereof when the financial assurance requirements described in this document are in place and a recorded conservation easement has been received by the Corps/FDEP. Mitigation credits will become available for impacts according to the credit release schedules below.

Credit releases shall be supported by documentation provided by the bank sponsor of the implementation of the project in accordance with the plans herein, attainment of the criteria, and upon the approval of the MBRT.

Credit Release Schedule Credit Release Schedule

Release Activity	Permit Section	% Credits Released	Credits Phase 1	Credits Phase 2	Credits Phase 3
Record Conservation Easement, Financial Assurances	III-D, III-E	10%	20.6	25.7	6.4
Logging, Selective Clearing, Brush Reduction, Exotic Control	III-F	20%	41.2	51.3	12.8
Prescribed Burn	III-G	15%	30.9	38.5	9.6
Hydrologic Improvements	III-H	5%	10.3	12.8	3.2
Performance Standards, Year 1 attained	IV-E(3)	10%	20.6	25.7	6.4
Performance Standards, Year 2 attained	IV-E(3)	10%	20.6	25.7	6.4
Performance Standards, Year 3 attained	IV-E(3)	10%	20.6	25.7	6.4
Performance Standards, Year 4 attained	IV-E(3)	10%	20.6	25.7	6.4
Performance Standards, Final attained	IV-E(2)	10%	20.6	25.7	6.4
Total (526.8 credits)		100%	206.0	256.8	64.0

2. Release procedure. Whenever the bank sponsor believes the mitigation bank or phase thereof has attained the criteria for a credit release, as defined herein, they shall request a determination of achievement and release of credits. The requests for credit releases shall be supported by documentation provided by the Sponsor that the release conditions and criteria have been met. The Sponsor shall afford MBRT members personnel the opportunity to schedule and conduct an on-site inspection of the mitigation area under review to verify that the criteria are met.

FDEP: For the State, this request shall be in the form of a minor modification with an appropriate fee, which shall be reviewed in accordance with Chapter 120, FS. FDEP shall review the documentation, conduct a site visit to determine if the documentation is

representative of on-site conditions, and perform a compliance review of the permit, prior to the issuance or denial of the minor modification to release credits. An updated ledger indicating the additional available credits shall be attached to the minor modification.

Corps: The notice shall be sent by certified mail to the Corps, Panama City and Jacksonville offices. Within 30 days (except for good cause), the Corps shall make a determination that the criteria are met and credits may be released, or, if not, will specifically identify those elements not meeting criteria.

G. Conditions on Debiting:

Corps: A ledger listing available and potential credits shall be maintained by the Sponsor and updated with each transfer of credits. An updated copy of the ledger shall be provided to the Corps following each debit or release.

FDEP: Withdrawal of the mitigation bank credits as compensatory mitigation for wetland impacts shall be accomplished through a minor modification of the FDEP permit. Modification requests for credit withdrawal shall not require a modification fee. Modification requests shall be made in writing to the Office of Submerged Lands and Environmental Resources in Tallahassee. Minor modification requests shall only be submitted by the bank Sponsor. The modification request shall include:

1. a complete list of all permits (or other applicable regulatory actions) that require mitigation credits from the Devil's Swamp Mitigation Bank,
2. the permit number, issue date and wetland resource permit processor/reviewer,
3. an identification of the number of wetland credits required under each of these permits.

Minor modification approvals for credit withdrawal shall be issued only to the bank Sponsor. An updated official credit ledger shall be included by FDEP as an attachment to each minor modification approval for credit withdrawal.

H. Provisions For Uses of the Mitigation Bank Area: The Sponsor shall not:

1. Grant additional easements, right of way, or any other property interest in or to the project areas without the written consent of the Corps, FDEP, and NFWFMD, in consultation with the MBRT.
2. Use or authorize the areas within the Bank for any purpose which interferes with its conservation purposes other than those specified within this MBI/Permit.
3. The Sponsor may continue to allow hunting for legal game on the mitigation bank site in accordance with the attached Hunting Lease Conditions (Attachment B-13), so long as these hunting activities in no way negatively affect the ongoing restoration and rehabilitation effort or any conditions of this MBI/Permit, as determined by the MBRT.

V. MAINTENANCE AND MONITORING OF THE BANK

A. Maintenance Provisions: The Sponsor agrees to perform all necessary work to maintain the Bank consistent with the success criteria and restoration goals established in Sections A(2) and G below and in the Compensatory Mitigation, Fire Management, and Security Plans (Attachments B-1, B-2, and B-3). The Sponsor shall continue with such maintenance activities in perpetuity or until such time as the Sponsor transfers this permit, management responsibilities and the fully funded long-term management trust fund to another entity.

1. Monitoring and Management During Construction. Monitoring during construction activities is intended to ensure compliance with best management practices (BMPs), to minimize wetland impacts and to ensure that there are no turbidity plumes or violations of state water quality standards (Attachment B-1-9). Whenever possible, the Sponsor shall conduct construction and timbering activities in dry conditions such that there is no turbid discharge into open water systems. If activities must be conducted in or near open water systems, the Sponsor shall use turbidity and/or silt screens (Exhibit B-1-9 and Attachment B-9) in accordance with BMPs, and shall monitor the open waters upstream (or out of influence of the activity) and downstream of the activity. If, at any time, turbidity at the downstream site is 29 NTU or greater than at the upstream site, the Sponsor shall discontinue the activity and rectify the problem. It is the responsibility of the Sponsor to rectify any unauthorized wetland impacts or water quality problems found and to inform FDEP within 24 hours by phone, FAX or e-mail (with follow-up written memo) of the cause and remedies implemented.

2. Management for Success and Maintenance. The wetlands are expected to trend to success once the planted pine and other inappropriate species are removed and the hydrology and fire regime are restored. Prior to success determination, monitoring data, observation, professional judgment, and the adaptive management plan will dictate the type and frequency of short-term maintenance activities required to meet and maintain the restoration goals described in the Compensatory Mitigation Plan. Regular bank management and maintenance activities shall include, but are not limited to:

- a. Conducting prescribed burns on a 2-3 year schedule in accordance with the goals and procedures described in the Fire Management Plan (Attachment B-2);
- b. Annual treatment of vegetation, as necessary, to meet the success criteria in Part IV, Section E;
- c. Removing feral/exotic animals that threaten the mitigation activities or success, such as feral hogs;
- d. Planting of supplemental wetland vegetation as necessary to achieve and maintain the success criteria in Part IV, Section E;
- e. Ensuring stability of all graded areas;
- f. Maintaining site security (fencing and signage) and inspecting for poaching or dumping (Attachment B-3);
- g. Collecting monitoring data as required in Part V, Section B, and submitting all required reports.

In addition to the regular maintenance activities, the Sponsor is responsible for quickly reporting and repairing any damage to the site, security or equipment as well as repairing any failure of ditch stabilization.

B. Monitoring Provisions: The Sponsor agrees to perform all necessary work to monitor the Bank to demonstrate compliance with the success criteria established in this MBI/Permit. The proposed monitoring plan (Attachment B-8) has been determined to be substantively adequate to evaluate progress toward restoration goals, identify potential roadblocks or impacts that may hamper attaining those goals, provide opportunities for scientific assessment of wetland functions and processes, and ultimately demonstrate that the Bank's success criteria have been met. However, in order to accommodate any changes necessitated by permitting conditions and/or operational restrictions, the Sponsor shall submit, for MBRT written approval, a final monitoring plan 60 days prior to conducting monitoring associated with the determination of success for this permit. The MBRT shall complete such approval within 60 days of receipt of a written submittal of the final monitoring plan. This plan shall include the following attributes:

1. a figure showing all sampling and photographic locations;
2. a table indicating all sampling and photographic frequencies and/or dates;
3. a detailed description of all sampling methodologies to be utilized;
4. samples of field and data tables;
5. photographic information.

In addition, this monitoring plan shall include a section detailing the proposed analyses and reporting that will be conducted utilizing the collected data. This section shall include:

6. proposed reporting format;
7. sample data summary tables and graphs;
8. proposed analytical assessments and discussion contents; and
9. a success/progress assessment.

C. Reports: The Sponsor shall submit to the MBRT the following reports:

1. Progress Reports. Beginning after permit issuance until final success determination of the bank or phase thereof, the Sponsor shall submit semi-annual progress reports, by January 1 and June 1 of each year, containing the following information regarding the bank or phase:

- a. Date permitted activities were begun or are anticipated to begin;
- b. Brief description and extent of work completed since the previous report or since permit was issued;
- c. Copies of permit drawings indicating areas where work has been completed;
- d. A description of problems encountered and solutions undertaken;
- e. A brief description of the work and/or site management the Sponsor anticipates commencing, continuing or completing in the next six months; and
- f. Site management undertaken, including type of management and dates each type was undertaken.

2. Annual Reports. The Annual Report is a summary of the annual monitoring for success and an assessment of the degree to which the bank is attaining success. This report shall be submitted by January 1 each year and shall be prepared according to the format required and approved in accordance with Part V, Section B. This report shall be submitted annually until the Bank site or phase thereof has been determined to be successful. The Sponsor may synchronize the reporting required in Part V, Section C(1), such that alternate progress reports may be included as a section in the Annual Report. The Annual Report that requests a determination of final success in accordance with Part V, Section E, shall also include the following information:

- a. a summary of all previous Annual Reports, including, as appropriate, timeline graphics;
- b. a list of each success criterion and documentation of how and when it was attained;
- c. a notation of problems encountered in attaining the success criteria and how the problems were solved, and a notation of any exceptionally successful management activity;
- d. a summary of compliance and/or enforcement submittals or actions during the implementation of the bank; and
- e. any other information helpful for the continued success of the mitigation.

D. Accounting Procedure: In order to track credit releases and withdrawals, a ledger shall be kept by both the Sponsor and FDEP indicating all potential, released, withdrawn and available credits. The format for the ledger, indicating potential credits, is attached as Attachment B-6.

E. Adaptive Management: The MBRT accepts that all ecological restoration projects are site specific, that multiple endpoints are possible owing to the stochastic nature inherent in ecological processes, and that human activities offsite and beyond the control of the mitigation bank may influence the course of restoration. For these reasons, the MBRT may, in consultation with the Sponsor, change the restoration strategy, modify the objectives, and adjust the performance standards and monitoring protocols at any time prior to full project release. Such changes must be made in writing and must qualify as adaptive management toward the ultimate restoration goals in response to site-specific conditions.

F. Contingency Plans/Remedial Actions: In the event the Bank or a specific phase of the Bank fails to achieve the success criteria specified in Part IV, Section E, of this MBI/Permit, the Sponsor shall develop necessary contingency plans and implement appropriate remedial actions for the Bank or that phase in coordination with the MBRT. In the event the Sponsor fails to implement necessary remedial actions in a timely manner after notification by the Corps or FDEP of necessary remedial action to address any failure in meeting the success criteria, the authorizing agency(ies) will notify the Sponsor and recommend appropriate remedial actions.

If the authorizing agency(ies) determines that the Bank is selling credits prior to their release or are not in compliance with the terms of this agreement, debiting of credits will immediately cease, and the authorizing agency(ies), in consultation with the MBRT and the Sponsor, will determine what remedial actions are necessary to correct the situation. As determined by the FDEP or the Chair in coordination with the MBRT and the Sponsor, if conditions at the bank site do not improve or continue to deteriorate within a reasonable time frame from the date that the need for remediation was first identified in writing to the Sponsor by FDEP or the Chair of the MBRT, the financial assurance funds required in Part III, Section D, shall be transferred to the fund manager to undertake corrective measures at the project site.

G. Long-Term Management: After the banking operations are complete and the bank has been determined to be fully successful according to Part V, Section E, the Sponsor shall initiate the long-term management responsibilities as follows:

1. Quarterly inspection of the property for signs of trespassing, poaching or dumping and to ensure that the structures and security features are in good working order;
2. Immediate reporting and timely maintenance, restoration or repair of any damaged equipment, systems or property identified in the quarterly inspection;
3. Conducting exotic and nuisance plant control, as necessary, to maintain success criteria. At no time shall the cover of these species exceed 5% cover/acre prior to remedial eradication activities;
4. Conducting prescribed burns at a frequency and season optimal to promote desirable vegetation and wildlife, as specified in the mitigation plan;
5. Submitting an annual end-of-the-year report/letter summarizing the activities conducted during the year and describing the current conditions of the property.

VI. RESPONSIBILITIES OF THE MBRT

A. The agencies represented on the MBRT agree to provide appropriate oversight in carrying out provisions of this MBI/Permit.

B. The agencies represented on the MBRT agree to review and provide timely comments on all project plans, monitoring reports, credit review reports, contingency plans, and necessary permits for the Bank in a timely manner. Comments on the monitoring reports and credit review reports will be reviewed within 30 calendar days from the date of complete submittal, or, for minor modification requests, in accordance with Chapter 120 F.S. guidelines, except for good cause.

C. The agencies represented on the MBRT agree to review and confirm reports on evaluation of success criteria prior to approving credits within each phase of the bank.

D. The agencies represented on the MBRT shall conduct compliance inspections, as necessary, as determined by the authorizing agencies in consultation with the Sponsor, to verify credits available in the mitigation bank, recommend corrective measures (if any), until the terms and conditions of this MBI/Permit have been determined to be fully satisfied.

VII. OTHER CORPS PROVISIONS

A. Force Majeure: The sponsor will not be responsible for bank failure that is attributed to natural catastrophes such as flood, drought, disease, regional pest infestation, etc., that the MBRT, acting through the Chair, determine is beyond the control of the Sponsor to prevent or mitigate.

B. Dispute Resolution: Resolution of disputes about application of this Banking Instrument shall be in accordance with those stated in the Federal Guidance for the Establishment, Use and Operation of Mitigation Banks (60 F.R. 58605 et seq., November 28, 1995).

C. Validity, Modification, and Termination of the Banking Instrument: This Banking Instrument will become valid on the date of the last signatory's signature. This Banking Instrument may be amended or modified with the written approval of all signatory parties. Any of the MBRT members may terminate their participation upon written notification to all signatory parties. Participation of the MBRT members will terminate 15 days after written notification.

D. Specific Language of Banking Instrument Shall Be Controlling: To the extent that specific language in this document changes, modifies, or deletes terms and conditions contained in those documents that are incorporated into the Banking Instrument by reference, and that are not legally binding, the specific language within the Banking Instrument shall be controlling.

VIII. ADDITIONAL FDEP REQUIREMENTS

A. Commencement requirements. At least 48 hours prior to commencement of work authorized by this permit, the Sponsor shall notify FDEP of Environmental Protection, Office of Submerged Lands and Environmental Resources, MS 2500, 2600 Blair Stone Road, Tallahassee, Florida, 32399, and the Submerged Lands and Environmental Resources Compliance and Enforcement Section, Suite 308, Northwest District Office, 160 Governmental Center, Pensacola, Florida 32502-5794, in writing of this commencement.

B. Notices. Unless otherwise specified, all reports and other information required for this permit shall be submitted to the Florida FDEP of Environmental Protection, Office of Submerged Lands and Environmental Resources, MS 2500, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

C. The Sponsor shall not commence any construction activities authorized by this permit until the following requirements are completed and FDEP has been notified in writing:

1. A copy of the recorded clerk-of-the-court certified Conservation Easement has been received by FDEP as required in Part III, Section E;
2. A Qualified Mitigation Supervisor is retained as required in Part VIII, Section E; and
3. Proof of financial responsibility is obtained as required in Part III, Section D.

D. This mitigation bank permit shall automatically expire five years from the date of issuance if the Sponsor has not recorded a conservation easement in accordance with the permit and Rule 62-342.750 (2) F.A.C. Except as provided above, this mitigation bank permit shall be perpetual unless revoked or modified.

E. Project Oversight. Prior to commencement of any construction activities, the Sponsor shall retain a Qualified Mitigation Supervisor (QMS) (a person or persons) to oversee all aspects of mitigation bank site implementation, management, monitoring, and corrective actions in this permit until final success criteria are met.

1. The QMS shall have the responsibility to ensure that the mitigation bank work is conducted in accordance with the permit.

2. Within 30 days of issuance of this permit, the Sponsor shall submit the name of the QMS retained to oversee the mitigation work and provide supporting documentation demonstrating that the QMS is qualified to oversee this work. FDEP must approve the QMS prior to commencement of the mitigation bank work. FDEP shall complete such approval within 30 days of receipt of a written request from the Sponsor for QMS approval.

3. Within 30 days of the discharge of any approved QMS, the Sponsor shall submit the name and supporting documentation of a new QMS to FDEP for its review and approval.

4. The Sponsor shall have the approved qualified QMS review the conditions of this permit that pertain to environmental improvement. The purpose of this review is to ascertain whether any criteria need to be modified to ensure ecological success. If FDEP concurs that any proposed modifications would improve the likelihood of compensatory mitigation success, these changes shall be incorporated into this permit as a minor modification.

Signature Page

Date: 6/29/04

By: John R. Hall
John R. Hall
Chief, Regulatory Division
U.S. Army Corps of Engineers, Jacksonville
District, Chair

Date: _____

By: _____
Ronald Mikulak
Section Chief, Wetlands Regulatory Section
U.S. Environmental Protection Agency, Region IV

Date: _____

By: _____
Gail A. Carmody
Field Office Supervisor
U.S. Fish and Wildlife Service, Panama City

Date: _____

By: _____
Robert M. Rhodes
Executive Vice President
The St Joe Company, Sponsor

This Mitigation Banking Instrument is in effect commencing on _____.

Signature Page

Date: _____

By: _____

John R. Hall
Chief, Regulatory Division
U.S. Army Corps of Engineers, Jacksonville
District, Chair

Date: _____

By: _____

Ronald Mikulak
Section Chief, Wetlands Regulatory Section
U.S. Environmental Protection Agency, Region IV

Date: _____

By: _____

Gail A. Carmody
Field Office Supervisor
U.S. Fish and Wildlife Service, Panama City

Date: _____

By: Robert M. Rhodes

Robert M. Rhodes
Executive Vice President
The St Joe Company, Sponsor

This Mitigation Banking Instrument is in effect commencing on 6/30/04.*

*note: Mr. Rhodes dated
signature in
wrong place*
MB

Devil's Swamp Mitigation Bank

Page 18 of 18

Signature Page

Date: _____

By: _____

John R. Hall
Chief, Regulatory Division
U.S. Army Corps of Engineers, Jacksonville
District, Chair

Date: 7/1/04

By: _____

Ronald Mikulak
Section Chief, Wetlands Regulatory Section
U.S. Environmental Protection Agency, Region IV

Date: _____

By: _____

Gail A. Carmody
Field Office Supervisor
U.S. Fish and Wildlife Service, Panama City

Date: _____

By: _____

Robert M. Rhodes
Executive Vice President
The St Joe Company, Sponsor

This Mitigation Banking Instrument is in effect commencing on _____.

Signature Page

Date: _____

By: _____
John R. Hall
Chief, Regulatory Division
U.S. Army Corps of Engineers, Jacksonville
District, Chair

Date: _____

By: _____
Ronald Mikulak
Section Chief, Wetlands Regulatory Section
U.S. Environmental Protection Agency, Region IV

Date: 6/30/04

By: Gail A. Carmody
Gail A. Carmody
Field Office Supervisor
U.S. Fish and Wildlife Service, Panama City

Date: _____

By: _____
Robert M. Rhodes
Executive Vice President
The St Joe Company, Sponsor

This Mitigation Banking Instrument is in effect commencing on _____.

Mitigation Plan Documentation Devils Swamp Mitigation Bank

Table of Contents

ATTACHMENT B-1 – COMPENSATORY MITIGATION PLAN	3
1. Introduction	3
2. Goals and Objectives	3
3. Existing Conditions.....	4
3.1 Landscape Setting	4
3.2 Topography and Hydrology.....	4
3.3 Soils.....	4
3.4 Vegetation Associations/Land Uses	7
3.4.1 Pine Plantation (441).....	8
3.4.2 Slash Pine Plantation – Hydric (441H).....	9
3.4.3 Reservoir (533).....	9
3.4.4 Titi Swamp (614)	9
3.4.5 Cypress Swamp (621).....	10
3.4.6 Shrub Swamp (632)	10
3.4.7 Roads (814).....	11
3.5 Protected Species	11
4. Historical Conditions	12
4.1 Landscape Setting	12
4.2 Site	13
5. Proposed Conditions.....	13
5.1 Hydric Pine Flatwoods	14
5.2 Savannahs	15
5.3 Mixed Forested Wetlands	15
5.4 Cypress Swamps	16
5.5 Upland Pines.....	17
5.5.1 Sandhills	17
5.5.2 Mesic Pine Flatwoods.....	17
6. Restoration Implementation	17
6.1 Plan Implementation	17
6.1.1 Hydric Pine Flatwoods	19
6.1.2 Savannahs	20
6.1.3 Mixed Forested Wetlands	21
6.1.4 Cypress Swamps	22
6.1.5 Upland Pines.....	23
6.2 Schedule	24
Attachment B-1 – EXHIBITS	25
ATTACHMENT B-2 – FIRE MANAGEMENT PLAN.....	37
ATTACHMENT B-3 – SECURITY PLAN	43
ATTACHMENT B-4 – WRAP ANALYSIS.....	46
ATTACHMENT B-5 – SITE SUITABILITY INDEX	50
ATTACHMENT B-6 – LEDGERS.....	51
ATTACHMENT B-7 – DESIRABLE SPECIES LIST.....	52
ATTACHMENT B-8 – MONITORING PLAN	61
ATTACHMENT B-9 – HYDROLOGIC RESTORATION PLAN	64
ATTACHMENT B-10 – REFERENCES	91
ATTACHMENT B-11 – REAL-ESTATE PROVISIONS	93
ATTACHMENT B-12 – FINANCIAL ASSURANCE.....	100
ATTACHMENT A-13 – HUNTING LEASE CONDITIONS	122

ATTACHMENT B-14 – IMPLEMENTATION COST ESTIMATE	124
ATTACHMENT B-15 – PERPETUAL MANAGEMENT COST ESTIMATES	126
ATTACHMENT B-16 – PRINCIPLES OF FOREST AND WILDLIFE MANAGEMENT .	129

ATTACHMENT B-1 – COMPENSATORY MITIGATION PLAN

1. Introduction

The St. Joe Company (SJC) wishes to restore and enhance approximately 3,049 acres of wetlands and uplands that are primarily in silviculture within a portion of their property in Bay and Walton Counties, Florida. The proposed project, known as the Devil's Swamp Mitigation Bank (herein referred to as the "DSMB"), is located north of the Intracoastal Waterway (ICW), south of Steele Field Road, about 5 miles east of Choctawhatchee Bay, and about 7.5 miles west of State Road (SR) 79 (Exhibit B-1-1).

The mitigation plan contained herein provides technical documentation in support of issuance of a U.S. Army Corps of Engineers (Corps) Section 404 Regional General Permit (RGP) and a Florida Department of Environmental Protection (FDEP) Ecosystem Management Agreement (EMA) for the West Bay to East Walton RGP/EMA Project.

2. Goals and Objectives

The objective of this mitigation plan is to compensate for the loss of wetland functions within the Devil's Swamp basin that are associated with the RGP/EMA Project. This project may result in the permanent loss of up to 299 acres of low quality and about 26 acres of high quality Corps/FDEP-jurisdictional areas, representing only 20% and less than 3% of the low and high quality jurisdictional areas, respectively, in the RGP/EMA area.

The majority of the proposed impacts in the RGP/EMA project area will be to hydric pine plantation and wetlands that have been disturbed by silviculture and silviculture-related activities such as bedding, fire suppression, ditching, and road building and maintenance. These wetlands are considered to be low quality wetlands, as defined in the RGP/EMA. About 92% of possible impacts to wetlands would be to these low quality wetlands that have been disturbed by silvicultural or other anthropogenic activities.

The remaining proposed impacts in the RGP/EMA project area will be to relatively undisturbed wetlands. These wetlands have not been planted in pine as part of silvicultural or other anthropogenic activities unlike the low quality wetlands. These unplanted wetland types include titi swamps, mixed forested wetlands, cypress swamps, and stream swamps, and are considered high quality wetlands. About 8% of the wetland impacts would be to these high quality wetlands.

Functions that would be lost due to the development of disturbed on-site wetlands would be primarily to water quality and quantity, wildlife habitat, and flood storage capacity provided by the impact sites.

The ecological restoration project at the DSMB is designed to restore the pre-pine plantation/historical communities to the project site. Specifically, it entails the restoration¹ of a total of a mosaic of natural communities. The proposed ecological goals for fulfilling the mission at the Devils Swamp site are threefold:

¹ Terminology follows the Corps of Engineers' Regulatory Guidance Letter for Wetlands And Interagency National Wetlands Mitigation Action Plan, released 12/27/02. Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland. For the purpose of tracking net gains in wetland acres, restoration is divided into: a.) Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland. Re-establishment results in rebuilding a former wetland and results in a gain in wetland acres; and b.) Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres. Under FDEP's rules "Re-establishment" equals "Creation" and "Rehabilitation" equals "Enhancement."

1. Recreate the landscape mosaic as it appears on 1949 aerial photographs. The 1949 landscape was that which existed immediately preceding conversion activities.
2. Re-establish the species composition and structure of the 1949 plant communities. The communities will resemble reference communities in the coastal counties of panhandle Florida on similar soils and at similar elevations above sea level with respect to life form distribution, vertical stratification, overall species abundance, and patterns of dominance.
3. Within the practical limits of future management requirements, rehabilitation efforts will return natural patterns of surface run-off by filling ditches and erosion areas, eliminating roads, installing equalizer culverts under and creating hardened low water crossings in permanent roads, and will implement a "natural" prescribed fire regime at the site.

The project site contains hydric pine flatwood, savannah, mixed forested wetland, cypress swamp, mesic pine flatwood and sandhill communities, most of which require rehabilitation.

3. Existing Conditions

3.1 Landscape Setting

The 3,049-acre DSMB is entirely within property owned by SJC (Exhibit B-1-1). Surrounding and nearby land uses include silviculture, conservation, residential, and industrial (Steele Field Road landfill on Steele Field Road in Bay County). The DSMB is located north of the Intracoastal Waterway (ICW), south of Steele Field Road, about 5 miles east of Choctawhatchee Bay, and about 7.5 miles west of State Road (SR) 79 (Exhibit B-1-1).

The DSMB is located within four drainage basins: Roaring Creek, Direct Runoff to Bay, Tenmile Branch, and Westbay Creek, which are within the Choctawhatchee Bay watershed (FGDL 2003; Fernald and Purdum 1998). The Choctawhatchee Bay watershed consists of approximately 5,349 square miles; the uplands primarily consist of mixed hardwood/pine forest and longleaf pine/xerophytic oak forests. Land is primarily used for silviculture, with agriculture more extensive in the northern portion of the watershed. Erosion/sedimentation are main concerns throughout the watershed; animal waste, urban stormwater, and septic tanks also are cited as problematic (FDEP 1999).

3.2 Topography and Hydrology

Topography across the DSMB varies from about 35 to 40 feet NGVD over the majority of the site and falls to about 20 feet NGVD in the northwestern connection to the NFWMD lands. Natural drainage across the property flows north toward the Choctawhatchee River (Exhibit B-1-3). Most of the site has relatively gentle topography, except in the northwest corner where it can be sudden and steep from sandhill to cypress dome or stream. In the majority of the site the wetlands are like shallow, rimmed platters with low rises between deep wetland systems.

Streams on site are typically shallow, sandy bottomed, blackwater systems with side channels that intermittently contain flowing water. Streams widths vary from about 4 to 25 feet and bank heights vary from about 0 to 10 feet. On-site streams flow through titi swamp (614) and mixed forested wetland (630); descriptions of these vegetative communities follow. Very little to no emergent or aquatic vegetation was observed in on-site blackwater streams.

3.3 Soils

According to the Natural Resources Conservation Service (NRCS) soil surveys for Bay and Walton Counties, Florida (USDA 1981, 1984), eight soil units in Bay County and eight soil units in Walton County are present on the property (Table B-1). A general description of each soil unit present on the site is provided in. Locations of soil units are depicted on Exhibit B-1-4.

**Table B-1. USDA NRCS Soil Types within the Devil's Swamp Mitigation Bank
Bay County**

Soil Number	Soil Type	Hydric or Not Hydric
1	Albany Sand, 0 to 2 percent slopes	Not Hydric
13	Leon Sand	Hydric - Not Primary
25	Hurricane Sand	Not Hydric
28	Allanton Sand	Hydric – Not Primary
29	Rutlege Sand	Hydric – Primary
30	Pottsburg Sand	Hydric - Not Primary
50	Pickney Fine Sand	Hydric – Primary
51	Rutlege-Pamlico Complex	Hydric – Primary

Walton County

Soil Number	Soil Type	Hydric or Not Hydric
8	Dorovan-Pamlico Association, Frequently Flooded	Hydric – Primary
12	Foxworth Sand, 0 to 5 % Slopes	Not Hydric
17	Lakeland Sand, 0 to 5 % Slopes	Not Hydric
21	Leon Sand	Hydric - Not Primary
27	Rutlege Fine Sand	Hydric - Not Primary
57	Hurricane Sand, 0 to 5 % Slopes	Not Hydric
63	Pickney Sand, Depressional	Hydric – Primary
64	Pamlico Muck	Hydric – Primary

Bay County

Albany Sand: This somewhat poorly drained, nearly level sandy soil occurs along defined drainageways and on areas leading to lower wet areas. Natural vegetation consists of longleaf and slash pines; blackjack, post, and blue oaks; gallberry; wax myrtle; and wiregrass. This soil has a water table at a depth of 18 to 30 inches for 1 month to 3 months during most years.

Leon Sand: This poorly drained, nearly level soil occurs in pine flatwoods areas where the natural vegetation consists of a canopy of longleaf, pond, and slash pine; water oak and an understory of wax myrtle, saw palmetto, running oak, fetterbush, gallberry, and wiregrass. The unit has a water table within a depth of 10 inches for 1 month to 4 months and at a depth of 10 to 40 inches for about 9 months in most years.

Hurricane Sand: This somewhat poorly drained, nearly level soil occurs between the uplands and the lower wet flatwoods. Natural vegetation consists of slash and longleaf pines; bluejack, turkey, and post oaks; native shrubs; saw palmetto; gallberry; broomsedge; bluestem; and wiregrass. This soil has a water table at a depth of 40 to 60 inches for 3 to 6 months in most years and at a depth of 20 to 40 inches for 1 to 3 months in some years.

Allanton Sand: This poorly drained soil is on nearly level or slightly depressional areas along poorly defined drainageways. Natural vegetation consists of black titi, sweetbay, black gum, cypress, scattered slash and longleaf pines, gallberry, wax myrtle, and wiregrass. This soil has a water table at or near the surface for 4 to 6 months during most years, and most low-lying areas and drainageways are flooded for 4 to 6 months annually. The NRCS Ecological Community typical for this soil type is swamp hardwoods.

Rutlege Sand: This very poorly drained soil is on nearly level or slightly depressional areas along drainageways. The natural vegetation is black titi, sweetbay, black gum, cypress, and scattered slash pine. The understory is gallberry, wax myrtle, wiregrass, and various reeds and sedges. The Rutlege sand has a water table at or near the surface for 4 to 6 months during most years and is under ponded conditions for 4 to 6 months annually.

Pottsburg Sand: This poorly drained soil is on nearly level, low-lying areas of the flatwoods. The natural vegetation consists of sweetbay, black titi, black gum, water oak, scattered slash and longleaf pine, gallberry, sweet gallberry, saw palmetto, wax myrtle, and wiregrass. The soil unit has a water table within a depth of 10 inches for 4 to 6 months during most years. Some low-lying inclusions are ponded for 2 to 6 months annually.

Pickney Fine Sand: This very poorly drained soil is on nearly level, broad flats and slightly depressional areas along poorly defined drainageways. Natural vegetation consists of sweetbay, black gum, cypress, black titi, scattered slash and longleaf pine, sweet gallberry, wax myrtle, and wiregrass. This soil has a water table at or near the surface for 4 to 6 months during most years, and most low-lying areas are ponded for 3 to 6 months after flooding during rainy seasons.

Rutlege-Pamlico Complex: This nearly level, very poorly drained, frequently flooded soil complex occurs mainly in drainageways and a few wide depressional areas. The natural vegetation consists of sweetbay, black gum, red maple, sweet gum, slash pine, black titi, wax myrtle, sweet azalea, sweet gallberry, and smilax species. The Rutlege soils have a water table near the surface for 4 to 6 months in most years and may be ponded after flooding. The Pamlico soils may be ponded for 4 to 6 months in most years after flooding, and when the soils are not flooded, the water table is within 20 inches of the surface most of the time. Pantego soils (10% of unit) have a water table within 10 inches of the surface for 2 to 4 months during most years and at a depth of 40 inches for 3 to 6 months.

Walton County

Dorovan-Pamlico Association, frequently flooded: This complex of nearly level, very poorly drained soils occurs mainly in large, hardwood swamps and floodplains of major drainageways. Dorovan soils occur in the middle of the drainageways and Pamlico on the outer parts. Natural vegetation is mostly bald cypress, black gum, sweetbay, white titi, scattered slash pine, bracken fern, greenbrier, muscadine vine, and wax myrtle. The Dorovan soil has a high water table near or above the surface for most of the year and floods more often than once every two years for periods of more than 1 month. The Pamlico soil has a high water table near or above the surface for most of the year and floods more often than once every two years for periods of 7 days to 1 month.

Foxworth Sand, 0 to 5 % Slopes: This moderately well drained and nearly level to gently sloping soil occurs on uplands and in elevated areas in flatwoods. Natural vegetation is mostly slash pine, loblolly pine, longleaf pine, live oak, post oak, bluejack oak, turkey oak, laurel oak, red oak, water oak, huckleberry, gallberry, and dogwood. This soil has a water table that fluctuates between depths of 40 and 72 inches for 1 to 3 months during most years and between 30 and 40 inches for less than 1 month in some years.

Lakeland Sand, 0 to 5 % Slopes: This excessively drained and nearly level to gently sloping soil occurs on broad ridgetops on uplands. Natural vegetation is mostly sand pine or longleaf pine, live oak, turkey oak, saw palmetto, wiregrass, bluestem grasses, and reindeer moss. This soil does not have a high water table within a depth of 6 feet.

Leon Sand: This soil consists of deep, poorly drained, moderately to moderately rapidly permeable soils that formed in thick, sandy marine sediment in broad, nearly level areas of the flatwoods. Natural vegetation is mostly longleaf pine, loblolly pine, slash pine, water oak, and wax myrtle. The water table is at a depth of 10 to 40 inches for more than 9 months during most years. During periods of high rainfall, the water table is less than 10 inches deep; the water table recedes to a depth of more than 40 inches during extended dry periods.

Rutlege Fine Sand: This unit consists of deep, very poorly drained, rapidly permeable soils that formed in thick, sandy sediment on marine terraces. It occurs in shallow depressions and on stream or creek floodplains and on flats. Natural vegetation consists of hardwoods, pond pines or slash and loblolly pines, huckleberry, wax myrtle, greenbriers, wiregrass, and sedges. These soils are saturated in winter and early spring. The water table is at or near the surface for long periods, and shallow ponding is common.

Hurricane Sand, 0 to 5 % Slopes: This somewhat poorly drained and nearly level soil occurs on slightly elevated areas in flatwoods. Natural vegetation consists of slash pine, loblolly pine, longleaf pine, bluejack oak, turkey oak, post oak, yaupon, saw palmetto, gallberry, broomsedge, and wiregrass. This soil has a high water table within 20 to 40 inches of the soil surface for 3 to 6 months in most years and below a depth of 40 inches for the rest of the year

Pickney Sand, Depressional: This soil consists of deep, very poorly drained, rapidly permeable, sandy soils that formed in marine sediment on nearly level drainageways and in depressions on flatwoods. Natural vegetation consists of hardwoods, swamp cyrilla, bald cypress, yaupon, pond pines, slash pine, loblolly pine, greenbriers, wiregrass, sweet gallberry, and sedges. This soil is ponded for more than 4 months annually.

Pamlico Muck: This poorly drained and nearly level soil occurs in depressional areas of the flatwoods. Natural vegetation consists of swamp cyrilla, greenbrier, bald cypress, pond pine, and sweetbay. This soil has a water table up to 2 feet above the surface for 6 months in most years.

3.4 Vegetation Associations/Land Uses

The proposed mitigation bank is primarily planted slash or sand pine plantation, comprising approximately 54.4% and 4.5% of the site, respectively, of various ages from about 5 years to 25 years. Some of the older plantings have recently been thinned every third row. Much of the site was furrowed during planting, and furrow depths range from about 6 to 15 inches, typically 6 to 8 inches deep. The shrub stratum varies from open to very dense thickets of hydric shrubs, primarily titi (*Cliftonia monophylla*). Due to fire suppression, shrub percent cover is much higher than would naturally occur in the historical natural communities. There has been no infrastructure constructed on the site other than logging roads and ditches to support silviculture.

Other vegetative communities include titi swamp, shrub swamp, and cypress swamp (Table B-2 and Exhibit B-1-5). The planted pines occur primarily in historical hydric and mesic pine flatwoods, xeric sandhills, and savannah. Habitats on the property vary in quality from excellent to poor depending on the effects of management for pine silviculture. The degree of infestation by exotic or nuisance plant species is negligible.

The vegetative associations in the DSMB are the same as those in the RGP/EMA area.

Table B-2. Devil's Swamp Mitigation Bank Existing Land Use Characteristics

FLUCFCS Code	FLUCFCS Description	Total Acres	Acres of Pre-Restoration Wetlands	Percent of Pre-Restoration Wetlands	Percent of Pre-Restoration Site
441	Upland Pine Plantation	1,166.7	0.0	0.0	38.3
441H	Hydric Pine Plantation	627.0	627.0	34.2	20.6
533	Reservoir	4.8	4.8	0.3	0.2
614	Titi Swamp	713.4	713.4	38.9	23.4
621	Cypress Swamp	12.2	12.2	0.7	0.4
632	Shrub Swamp	477.4	477.4	26.0	15.7
814	Roads	47.6	0.0	0.0	1.6
TOTAL		3,049.2	1834.8	100.0	100.0

Fire suppression has allowed the prolific colonization of woody plants in the communities of this ecosystem. Herbaceous plants are suppressed or have been eliminated by woody competition. The demise of herbaceous vegetation was intensified by shade and organic litter accumulation contributed by planted pines and shrub debris. The most abundant woody colonizers were inkberry (*Ilex glabra*), large gallberry (*Ilex coriacea*), yaupon (*Ilex vomitoria*), fetterbush (*Lyonia lucida*), bamboo-vine (*Smilax laurifolia*), and in wetter areas, black titi (*Cliftonia monophylla*), swamp bay (*Persea palustris*), sweet bay (*Magnolia virginiana*), and swamp titi (*Cyrilla*

racemiflora). After planted slash pines were established and fires suppressed, some sites developed invasive understory vegetation of shrub thickets or, on wetter soils, titi thickets. Numerous young slash pines have appeared from seeds produced by the planted slash pines.

Water cover, depth, and flow direction across the site have been affected by activities related to silviculture – construction of ditches and logging roads, bedding and furrowing, and skidder trails – and by the ICW and spoil areas and reservoirs associated with and located along the ICW. In addition, dense pine plantings and shrub cover have undoubtedly increased evapotranspiration.

3.4.1 Pine Plantation (441)

This FLUCFCS classification was used to indicate areas of planted sand pines and mesic slash pines as well as inclusions within these planted pines of xeric longleaf pine-turkey oak communities.

Planted Sand Pine

The canopy is dense *Pinus clausa*. When sand pines mature, understory and ground cover species typically are shaded out. Subcanopy species include *Quercus chapmanii*, *Quercus laevis*, *Quercus geminata*; the understory/shrub stratum contains *Ilex vomitoria*, *Serenoa repens*, and *Vaccinium arboreum*; and the ground cover contains *Andropogon virginicus*, *Aristida stricta*, *A. purpurens*, *Berlandiera pumila*, *Carex* sp., *Chrysoma pauciflorescens*, *Crotalaria rotundifolia*, *Croton argyranthemus*, *Eriogonum tomentosum*, *Eupatorium compositifolium*, *Euphorbia inundata*, *Lespedeza* spp., *Liatris gracilis*, *Licania michauxii*, *Opuntia humistrata*, *Panicum virgatum*, *Quercus incana*, *Q. pumila*, *Schrankia microphylla*, *Smilax pumila*, and *Yucca flaccida*.

Wildlife observations include one abandoned gopher tortoise (*Gopherus polyphemus*) burrow.

Mesic Planted Slash Pine

The canopy is planted slash pine (*Pinus elliottii*) that ranges in ages from about 5 to 20 years old. Pine rows were approximately 3 to 5 meters apart and furrows were about 6 to 12 inches deep. The mesic pine plantations generally support facultative to upland species as the dominant species in the understory/shrub and ground cover strata. However, fire suppression has encouraged the spread of typically hydric shrub species, especially titi (*Cliftonia monophylla* and *Cyrilla racemiflora*), uphill and into mesic conditions.

Slash pines have been planted in many former habitat types and evidence of these habitats frequently shows in the remnant shrub and ground cover species. Throughout the site, areas of planted slash pine grade into other habitat types, such as planted sand pine and xeric uplands, hydric planted slash pine, shrub swamps, cypress swamps, mixed forested wetland, and streams. Within these ecotones, the planted slash pines become less dominant to not present. Small areas of these other habitat types also occur encompassed within larger extents of planted pine, but within which planted slash pines are not dominant or not present. Slash pine also naturally occurs in many of the on-site unplanted wet systems.

The shrub stratum in mesic pine plantations typically is dominated by *Ilex glabra*, *Lyonia lucida*, *Myrica cerifera*, and *Serenoa repens*, and may also contain *Acer rubrum*, *Cliftonia monophylla*, *Cyrilla racemiflora*, *Gaylussacia mosieri*, *Ilex coriacea*, *I. myrtifolia*, *Quercus nigra*, *Vaccinium corymbosum elliottii*. Where planting was recent, a shrub stratum is not yet present.

The ground cover under pines 10 or 12 years old and older is often sparse because of thick pine duff and shading. Ground cover species observed in on-site mesic pine plantations include *Andropogon capillipes*, *A. glomeratus*, *Aristida stricta*, *Baptisia lanceolata*, *Carphephorus odoratissimus*, *Gaylussacia dumosa*, *G. frondosa*, *G. mosieri*, *Licania michauxii*, *Pteridium aquilinum*, *Quercus minima*, *Smilax auriculata*, *S. pumila*, *Vaccinium corymbosum*, *V. darrowii*, and *Vitis rotundifolia*.

Wildlife species observed within this area include cedar waxwing (*Bombocilla cedrorum*), cricket frog (*Acris gryllus*), and eastern towhee (*Pipilo erythrophthalmus*).

Longleaf Pine-Turkey Oak Inclusions

These xeric areas support a canopy and subcanopy of *P. palustris*, *Quercus laevis*, and *Pinus clausa*. The understory/ground cover typically consists of *Aristida stricta*, *Baptisia lanceolata*, *Mitchella repens*, *Pityopsis graminifolia*, *Polygala lutea*, *P. nana*, *Pteridium aquilinum*, *Quercus incana*, *Rubus cuneifolius*, *Serenoa repens*, *Smilax auriculata*, *S. pumila*, and *Yucca filamentosa*.

Wildlife observed includes pocket gopher (*Geomys floridana*) burrows.

3.4.2 Slash Pine Plantation – Hydric (441H)

The canopy is planted slash pine that ranges in ages from about 5 to 20 years old (about 10 to 40 feet). Pine rows were approximately 3 to 5 meters apart and furrows were about 6 to 12 inches deep. *Taxodium ascendens* and *Magnolia virginiana* were sometimes present in the subcanopy.

The shrub stratum in hydric pine plantations typically is dominated by *Cliftonia monophylla*, *Cyrilla racemiflora*, *Hypericum fasciculatum*, *Ilex myrtifolia*, *Lyonia lucida*, *Myrica cerifera*; and may also contain *Clethra alnifolia*, *Gaylussacia mosieri*, *Hypericum chapmanii*, *Ilex coriacea*, *I. glabra*, *Magnolia virginiana*, *Persea palustris*, *Pieris phillyreifolia*, *Quercus nigra*, *Serenoa repens* (often scrawny), *Taxodium ascendens*, *Vaccinium corymbosum*, and *V. elliotii*. Where planting was recent, a shrub stratum was nonexistent.

The ground cover under pines 10 or 12 years old and older is often sparse because of thick pine duff and shading. Ground cover species observed in on-site hydric pine plantations include *Andropogon glomeratus*, *Aristida stricta*, *Drosera capillaris*, *Eriocaulon compressum*, *Lachnanthes caroliniana*, *Lophiola americana*, *Osmunda cinnamomea*, *Polygala lutea*, *Rhexia alifanus*, *Rhexia sp.*, *Sarracenia flava*, *S. leucophylla*, *S. psittacina*, *Sphagnum sp.*, *Sporobolus floridanus*, *Utricularia purpurea*, *Woodwardia virginiana*, *Xyris caroliniana*, and *Xyris sp.*

Wildlife species included common yellowthroat (*Geothlypis trichas*), numerous crayfish burrows, green tree frog (*Hyla cinerea*), pinewoods tree frog (*H. femoralis*), and cottonmouth (*Agkistrodon piscivorus*).

3.4.3 Reservoir (533)

One large impoundment created by the U.S. Army Corps of Engineers (Corps) adjacent to the ICW is within the DSMB. Emergent and floating vegetation within this impoundment includes *Nymphaea* spp., *Panicum repens* (adjacent to the berm), *Utricularia* spp., and *Juncus* spp. The shallower areas contain *Taxodium ascendens* and *Hypericum fasciculatum*.

Wildlife observed include pig frog (*Rana grylio*), cricket frog, great crested flycatcher (*Myiarchus crinitus*), anhinga (*Anhinga anhinga*), red bellied woodpecker (*Melanerpes carolinus*), belted kingfisher (*Ceryle alcyon*), and great blue heron (*Ardea herodias*).

3.4.4 Titi Swamp (614)

Titi swamps are dominated by *Cliftonia monophylla* and *Cyrilla racemiflora*. Other subdominant canopy or subcanopy species are *Magnolia virginiana*, *Pinus elliotii*, and *Taxodium ascendens*. Titi swamps also contain *Ilex coriacea*, *I. myrtifolia*, *Lyonia lucida*, *Nyssa biflora*, and *Persea palustris* in the subcanopy and shrub stratum, and *Aristida* spp., *Drosera capillaris*, *Drosera tracyi*, *Lachnanthes caroliniana*, *Lycopodium* spp., *Sagittaria latifolia*, *Sarracenia leucophylla*, *Sarracenia purpurea*, *Sarracenia psittacina*, *Sphagnum* spp., *Woodwardia virginiana*, and *Xyris* spp. in the ground cover.

Some of the titi swamps are in seepage areas. Titi swamps are frequently intermixed with and/or grade into shrub swamps (632; see below), hydric slash pine plantations (441H), mixed forested wetlands (630), stream floodplains (510), and cypress swamps (621). Water depths in titi swamps varies greatly from no water to about 1 foot.

Wildlife observed include pygmy rattlesnake (*Sistrurus miliarius*), pinewoods tree frog, gray catbird (*Dumetella carolinensis*), white tailed deer (*Odocoileus virginianus*), Carolina chickadee (*Poecile carolinensis*), hooded warbler (*Wilsonia citrina*), great crested flycatcher, bronze frog (*Rana clamitans*), cricket frog, pine warbler (*Dendroica pinus*), mourning dove (*Zenaidura macroura*), prothonotary warbler (*Prothonotaria citrea*), northern cardinal, and eastern towhee.

3.4.5 Cypress Swamp (621)

The cypress swamps within the boundaries of the site are relatively deep-water cypress domes with *Ilex myrtifolia*. Water depths range from 0 to greater than 4 feet in cypress domes and swamps. Many of the cypress swamps exhibit hummocks that typically support a greater density of shrub and ground cover species. The northeastern section of the DSMB contains deeper cypress domes with *Ilex myrtifolia* dominant in the subcanopy surrounded by xeric uplands (sand pine plantations and longleaf pine-turkey oak [see 441]). The transition from xeric upland to cypress dome is sudden and the *Hypericum*-graminoid ecotone is very narrow (about 10 to 20 feet wide).

The canopy in cypress swamps is dominated by *Taxodium ascendens* with some *T. distichum*. *Pinus elliotii* is scattered throughout. *Cyrilla racemiflora*, *Cliftonia monophylla*, and *Ilex myrtifolia* often dominate the shrub stratum, which also contains *Aronia arbutifolia*, *Clethra alnifolia*, *Gaylussacia mosieri*, *Hypericum chapmanii*, *H. crux-andreae*, *H. fasciculatum*, *H. galioides*, *H. hypericoides*, *Ilex coriacea*, *I. glabra*, *I. myrtifolia*, *Lyonia lucida*, *Myrica cerifera*, *M. heterophylla*, *Nyssa biflora*, *Pieris phillyreifolia*, *Smilax laurifolia*, and *Vaccinium elliotii*.

Ground cover in cypress swamps is abundant and healthy to sparse or nonexistent, due to ranges in hydrology and shading. In the deeper systems, emergent herbaceous species include *Carex* spp., *Cladium jamaicense*, *Rhynchospora inundata*, *Utricularia purpurea*, *U. subulata*, *Xyris* spp., *Proserpinaca pectinata*, and *Sagittaria latifolia*. Species commonly occurring in the wet ecotones around the cypress domes are *Calamovilfa curtissii*, *Aristida stricta*, *Drosera capillaris*, *D. intermedia*, *Drosera tracyi*, *Eriocaulon compressum*, *Lachnanthes caroliniana*, *Lachnocaulon anceps*, *Lophiola americana*, *Lycopodium alopecuroides*, *L. appressum*, *L. caroliniana*, *Panicum scabriusculum*, *P. virgatum*, *Plelea tenuifolia*, *Rhexia mariana*, and *Scleria* spp.

Wildlife species observations in this area included white tailed deer, raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), great crested flycatcher, eastern towhee, red-bellied woodpecker, red eyed vireo (*Vireo olivaceus*), northern parula warbler (*Parula americana*), common grackle (*Quiscalus quiscula*), common yellowthroat, northern cardinal, pine warbler (*Dendroica pinus*), pileated woodpecker (*Dryocopus pileatus*), and prothonotary warbler, Gulf Coast box turtle (*Terrapene carolina*), green anole (*Anolis carolinensi*), southern leopard frog (*Rana utricularia*), pinewoods tree frog, cricket frog, and freshwater invertebrates.

3.4.6 Shrub Swamp (632)

The shrub swamps on the site typically have less than 10% canopy by trees and no one species is dominant in the shrub stratum; however, some areas are dominated by *Hypericum chapmanii* (i.e., *Hypericum* bog) or *Cliftonia monophylla*. These systems vary from wet soil to open water that is often about 12 inches deep (but can be up to 4 feet deep) and typically contain vegetation on tussocks or hummocks. On-site, these systems are naturally occurring, but may have a greater density of shrubs or *Pinus elliotii* than historical shrub swamps due to fire suppression and seeding-in by pines from adjacent plantation. Some of the shrub swamps have succeeded from savannah/wet prairie systems due to fire suppression. Many of these systems continue to support a sparse ground cover of species on tussocks or hummocks that are characteristics of savannah/wet prairie systems. On-site shrub swamps typically exhibit a fairly high species diversity. These large shrub swamp systems have been disturbed by logging of large cypress and slash pines. Trails through vegetation from the logging equipment remain obvious, and soils have been compacted about 0.5 to 2 feet deeper than the original grade. Vegetation and hydrology

within some of the trails seem to have recovered, but in other areas, the trails remain unvegetated.

Subcanopy/shrub species include *Cliftonia monophylla*, *Cyrilla racemiflora*, *Hypericum brachyphyllum*, *H. chapmanii*, *H. fasciculatum*, *H. galioides*, *Ilex coriacea*, *I. myrtifolia*, *Lyonia lucida*, *Magnolia virginiana*, *Myrica heterophylla*, *Nyssa biflora*, *Persea palustris*, *Smilax* spp., *Pinus elliotii*, and *Taxodium ascendens*. The sparse canopy trees are *Magnolia virginiana*, *Pinus elliotii*, *Taxodium ascendens*, and *T. distichum*. Planted *Pinus elliotii* does not usually do well in these wetter systems.

Ground cover species include *Aletris lutea*, *Andropogon capillipes*, *Aristida stricta*, *Cladium jamaicense*, *Drosera capillaris*, *D. tracyi*, *Eriocaulon compressum*, *Fuirena* spp., *Lachnanthes caroliniana*, *Lachnocaulon anceps*, *Lachnocaulon* spp., *Lophiola americana*, *Lycopodium alopecuroides*, *Panicum* spp., *Pilea tenuifolia*, *Proserpinaca pectinata*, *Rhexia* spp., *Rhynchospora* spp., *Sagittaria latifolia*, *Sarracenia flava*, *S. psittacina*, *S. leucophylla*, *Smilax laurifolia*, *Sphagnum* spp., *Utricularia purpurea*, *U. lutea*, *Woodwardia virginiana*, *Xyris* spp., and *Zigadenus densus*.

Wildlife observations include gray fox, white tailed deer, red-shoulder hawk (*Buteo lineatus*), gray catbird, eastern towhee, common grackle, Carolina chickadee, northern cardinal, hooded warbler, great crested flycatcher, white eyed vireo (*Vireo griseus*), northern parula warbler, pine warbler, mourning dove, prothonotary warbler, pygmy rattlesnake, cricket frog, pinewoods tree frog, pig frog, bronze frog, and crayfish (*Procambarus apalachicola*, *P. latipleurumys*, *P. rogersi*). One corn snake (*Elaphe guttata guttata*) was observed on the adjacent upland road.

3.4.7 Roads (814)

Unpaved logging roads criss-cross the site and traverse both upland and wetland communities. Most of the on-site roads are clearly visible on the 1949 aerials of the DSMB, which was well before pine planting was begun on the site. Most roads are 30 to 40 feet wide. At least one north-south road (County Line Road) and one east-west road (17 Road) are wider, about 50 feet. Road crossings of wetlands are more often culverted; where crossings are not culverted, they are sometimes slightly raised, but may flood frequently. Road 17 crosses a blackwater stream, Doe Branch, via an old, wooden bridge.

3.5 Protected Species

Survey Methods

Before beginning field surveys, lists of threatened and endangered species and species of special concern that occur in Bay and Walton Counties were obtained from various sources, including the Florida Natural Areas Inventory (FNAI), the Florida Department of Agriculture and Consumer Services (FDACS), Florida Fish and Wildlife Conservation Commission (FFWCC), the United States Fish and Wildlife Service (USFWS), and the Northwest Florida Water Management District (NWFWM). WilsonMiller conducted comprehensive biological surveys of the project site using survey methodologies that were generally consistent with FFWCC guidelines (FFWCC 1988).

The survey teams typically consisted of one to two biologists performing meandering pedestrian transects through the site. These transects were conducted in the mornings, afternoons, and evenings by WilsonMiller personnel in April 2003 and by both WilsonMiller and Biological Research Associates personnel in May 2003. The biologists periodically stopped, looked for protected plants and wildlife, signs of wildlife, and listened for wildlife vocalizations.

Protected Species Observed On Site

No federally protected species have been observed on site. Five state-listed plant species were identified on-site including the endangered white-topped pitcher plant, and the threatened parrot pitcher plant, purple pitcher plant, spoon-leaved sundew, and Curtiss' sandgrass.

Evidence of one faunal species, an old gopher tortoise (*Gopherus polyphemus*) burrow was observed on site. The gopher tortoise is state-listed as a species of special concern.

White-topped pitcherplant (*Sarracenia leucophylla*): The white-topped pitcher plant naturally occurs in bogs, wet prairies, and cypress flats. Within the DSMB, it was observed in high numbers at numerous locations within shrub bogs/cypress flats and titi swamps and in roadside drainage ditches near these systems.

Parrot pitcher plant (*Sarracenia psitticina*): The parrot pitcher plant occurs in bogs, wet prairies, and ecotonal areas of swamps. Within the DSMB, it was observed in high numbers at numerous locations within shrub bogs/cypress flats and titi swamps and in roadside drainage ditches near these systems.

Purple pitcher plant (*Sarracenia purpurea*): The purple pitcher plant occurs in bogs from Escambia to Gadsden Counties in Florida. This species was observed in a titi swamp in the southern portion of the site.

Spoon leaved sundew (*Drosera intermedia*): The spoon-leaved sundew occurs in seepage slopes, wet flatwoods, depression marshes, sinkhole lakes, and drainage ditches. On the project site it was observed in numerous locations in shrub bogs/cypress flats and in roadside drainage ditches near these systems. In several locations, robust populations of many individuals were found.

Curtiss' sandgrass (*Calamovilfa curtissii*): Curtiss' sandgrass occurs in pinelands, wet prairie, and freshwater marsh. This species was observed in one location 50 feet outside the eastern boundary of the mitigation bank; it is expected to occur within the mitigation bank.

Gopher tortoise (*Gopherus polyphemus*): During field surveys in 2003, one old gopher tortoise burrow was observed in the northwest portion of the DSMB property in a sandhill area. A recorded occurrence of gopher tortoise (no date) was reported by FNAI in a slash pine plantation in the southwest portion of the site, but surveys conducted specifically for that burrow were unsuccessful. Suitable habitat for the gopher tortoise occurs throughout the northwest portion of the site.

4. Historical Conditions

4.1 Landscape Setting

The DSMB is located in Bay and Walton Counties, Florida. The project site lies exclusively within the Gulf Coastal Lowlands geomorphic division upon the coastal, Pleistocene–Miocene formed Silver Bluff Terrace. The mitigation bank occurs 5 miles north of the Gulf of Mexico, 7 miles southeast of the mouth of the Choctawhatchee River at its confluence with Choctawhatchee Bay, and 9 miles northwest of West Bay. The primary stratigraphic areas of the mitigation bank occur from 0 to 20 feet above sea level and are contiguous within its landward margin and below an historical coastal escarpment rising to 25 feet above sea level. This general east to west escarpment orientation separates the low lying areas of the project site from those of the River Valley Lowlands of the Choctawhatchee River, which flows east to west within 3 miles north of the project site.

High annual precipitation, high average temperatures, consistently high humidity, and persistent sea breezes characterize the climate and influence soil formation in the Devil's Swamp region. Rainfall averages about 60 inches annually. The area has a warm, humid climate that is moderated by its immediate proximity to the water bodies of the Choctawhatchee Bay, West Bay,

and the Gulf of Mexico. The area has an average of 273 frost-free days. Periodic tropical hurricanes with significant physical and chemical influences are reasonably common during summer and early fall seasons. Due to the warm climate and abundance of rainfall, chemical and biological actions are rapid. The abundant rainfall leaches much of the nutrients from the sandy soils leaving them relatively infertile and acidic. Vegetation structure and composition have also been and remain influenced by these climatic factors.

4.2 Site

Northwestern portions of the project site occur upon the escarpment formation. Areas in the northwestern portions historically have had minor fluvial influence evidenced by drainage patterns. The larger, interior sections of the project site are gently sloping plains to nearly flat topography and basin depressions, which contain or are dissected by broad sheet flow drainages and minor streams. With the exception of the well drained soils located on or adjacent to the escarpment, the majority of the project site hydrology exhibits moderate to low infiltration and slow water transmission. Hydrology is essentially vertical within many areas of the broader flats. Depths to seasonally high water table is generally within 10 inches of the surface. During periods of seasonal or heavy precipitation, surface water frequently stands above the subsoil strata and inundates the surface soil matrix for extended periods of time. Surface drainage is generally low to moderate, yet rather rapid where topographic gradients of 2% or greater exist. Primary landscape drainages transect the uplands and are evident on current and historical 1949 aerial photographs. During droughts and seasonal drier periods, groundwater is unobtainable and below the subsoil levels. Plant and soil communities are under heavy stress from saturation during wet seasons and from dehydration during dry seasons. This change can occur rapidly and frequently during the year.

The soils on the DSMB consist of beds of sandy and loamy materials that were transported and deposited by waters of the Gulf, which covered the area a number of times during the Mio-Pleistocene Epochs. Sediments were eroded and reworked to form this marine terrace caused by changes in sea level and level plain topography. The dominant geological materials are inert. The sands are almost pure quartz and highly resistant to weathering. The differences in the soils occurring on the site resulted from periodic deposition over time, site topography and broad landscape drainage, high water table, the influences of silt and organic material accumulations, chemical translocation, and mineral leaching. Soils of the tract are deeply underlain by Suwannee Limestone.

Naturally occurring fire events maintained the integrated mosaic of vegetation communities and ecotypes that influenced and defined the biotic composition of the project site and surrounding landscape. The variation within the landscape, resulting from soil composition and topography, occasioned the development of persistent vegetation types, and regular, periodic fire established or maintained sandhill, mesic pine flatwood, hydric pine flatwood, titi swamp, cypress swamp, and mixed forested wetland vegetation communities. Historical aerial photographs from 1949 reveal that the project site was once a landscape mosaic composed of pine flatwood and xeric pine communities traversed by mixed hardwood, cypress and shrub drainages, which were interlaced by broad areas of wet prairie and cypress flat savannah. Each of the vegetation communities existing within the DSMB landscape are fire dependent, fire maintained or fire influenced. Ecosystem integrity is dependent on regular fires. Fire frequency intervals, or return periodicity, was probably every two to four years, or possibly longer during wetter periods.

5. Proposed Conditions

The planned mitigation and restoration efforts involve restoring the site to the pre-pine plantation/historical communities. Specifically, efforts entail the restoration² of approximately 2,

² Terminology follows the Corps of Engineers' Regulatory Guidance Letter for Wetlands And Interagency National Wetlands Mitigation Action Plan, released 12/27/02. Restoration: The manipulation of the physical, chemical, or biological

064.3 acres of wetlands and 984.9 acres of uplands within the DSMB to the historical natural vegetation communities discussed below. Table B-3 presents the pre and post vegetation communities and acreages. The proposed condition vegetation types are described below. To the extent possible, the rehabilitated DSMB will contain the indigenous vascular plant and wildlife species that are characteristic of these communities as they occur throughout the coastal counties of the region on similar soils and at similar elevations above sea level. To attain success, the rehabilitated communities will resemble reference communities with respect to life form distribution, vertical stratification, overall plant size, species abundance, and patterns of dominance, and will substantively conform to the descriptions below. The rehabilitation will concentrate on three levels of diversity: (1) landscape mosaic, (2) plant community structure, and (3) plant species composition.

Table B-3. Matrix of Existing to Post Restoration Land Uses and Acreages

Existing Types	Post-Restoration Land Use							Grand Total
	Cypress Swamp	Hydric Pine Flatwoods	Mixed Forested Wetlands	Roads	Savannah	Upland Pines	Water Bodies	
Upland Pine Plantation	2.8	524.0	24.2		70.1	545.6		1,166.7
Hydric Pine Plantation	15.9	256.8	129.2		225.1			627.0
Reservoir							4.8	4.8
Titi Swamp	2.3	48.2	583.6		79.4			713.4
Cypress Swamp	12.2							12.2
Shrub Swamp	41.2	9.1	410.0		17.1			477.4
Roads				47.6				47.6
Grand Total	74.4	838.1	1,147.0	47.6	391.6	545.6	4.8	3,049.2

The actual acreage of each type is less important than achieving a healthy, integrated mosaic of communities with approximately these percentages of component communities, as described below.

5.1 Hydric Pine Flatwoods

Hydric Pine Flatwoods occur as open forests of scattered pines with a dense ground cover of grasses, sedges, and forbs with patches of saw palmetto and low, hydrophytic shrubs. The understory stratum, when present, consists of irregular shrubby patches of tall shrubs and saplings. Hydric pine flatwoods occur on nearly level topography with poorly drained acidic sands, often overlaying hardpan or clay subsoil. The dominant canopy species is longleaf pine (*Pinus*

characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland. For the purpose of tracking net gains in wetland acres, restoration is divided into: a.) Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland. Re-establishment results in rebuilding a former wetland and results in a gain in wetland acres; and b.) Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres. Under FDEP's rules "Re-establishment" equals "Creation" and "Rehabilitation" equals "Enhancement."

palustris) or slash pine (*Pinus elliotii*). The community type and its species are fire dependent and similar to mesic pine flatwoods except for a longer hydroperiod and the increased presence of hydrophytic vegetation. Hydric pine flatwoods commonly grade into mesic flatwoods, savannah, and mixed forested wetland. This community type typically forms a zone separating mesic pine flatwoods from savannahs, shrub bogs or acid swamps or occurs as expansive seepage areas.

In the rehabilitated landscape, the hydric pine flatwoods will occur as a gradation from the mesic flatwoods to the mixed hardwood-cypress swamp system, often containing large patches of savannah.

Because of the historic land use as plantation the restored communities may retain some of the characteristic of bedding; however, these topographic disturbances will gradually erode to a level topography. It is likely that slightly different plant associations will be present on the beds and furrows, but groundcover shall be native and appropriate to the overall community and function to convey fire. In order to be determined to be successful, the bed and furrow topography shall not convey waters in such a way as to drain the site. Additionally, the bedding has disturbed the soils and as such there may be some differences between the restored site and reference communities, but soils shall exhibit hydric indicators or be trending toward hydric conditions.

5.2 Savannahs

Savannahs are flat, poorly drained communities that support a treeless to open canopy of pond cypress. Characteristic species tolerate both flooding and extensive dry periods. Plant composition varies with soils, fire regime, and hydroperiod. The community is composed of a dense ground cover of grasses, sedges, and herbaceous forbs. The ground cover is very diverse and species-rich, with a dominance of grasses and sedges.

Hydrophytic shrubs and trees are absent, widely scattered, or confined to the ground cover as coppice sprouts. Occasionally, isolated pines establish on sandy knolls with improved aeration and represent small distinctive and isolated flatwood "islands" within this community. In wetter areas, pond cypress, black gum, sweet bay, red maple, and titi may establish as isolated patches or coppicing groups. Shrubs such as St. John's-wort and bayberry (*Myrica heterophylla*) are the only shrubs of significance and rarely survive the frequent fires essential for the maintenance of this community. The community type and its species are fire dependent.

Soils are generally infertile, sandy loams with some clay component particularly in the lower profile. Where soils have peaty sand in the upper soil horizon, the soils remain saturated during wet periods and maintain marginally wetter conditions during the growing season. Fire periodically reduces this peat substrate. The flat terrain prevents appreciable surface runoff and soils prohibit internal percolation. Hydrology is essentially vertical. Savannah communities commonly grade into hydric and mesic pine flatwoods, cypress swamps, and mixed forested wetlands.

In the rehabilitated landscape, the savannahs will occur as a gradation from the hydric and mesic flatwoods to the mixed hardwood-cypress swamp system, often containing large patches of flatwoods.

5.3 Mixed Forested Wetlands

Mixed forested wetlands on the DSMB project are typical of acid forested basin swamps (FNAI and FDNR 1990). Some of these swamps on site occur along drainages or streams with distinctive stream channels, particularly in the northwestern portion of the site and are vegetated with hydrophytic trees and shrubs that can withstand an extended hydroperiod. These swamps also are evident in the 1949 aerial photos throughout the DSMB tract. In this ecosystem, pond cypress (*Taxodium ascendens*) and slash pine (*Pinus elliotii*) are often important canopy components, as well as several broadleaf tree and shrub species tolerant of hydric conditions, such as sweet bay (*Magnolia virginiana*), myrtle-leaf holly (*Ilex myrtifolia*), swamp tupelo (*Nyssa*

biflora), and titi (*Cliftonia* and *Cyrilla*). Community composition varies, with no single species or species group exhibiting canopy dominance, and includes various combinations of these large and small tree species. The mixed forested wetland community type commonly grades into hydric pine flatwoods, savannahs, and cypress swamps. The species composition of Basin Swamps frequently overlaps with Floodplain Swamp, Strand Swamp, and Baygall.

Many of these systems have large open swathes of land that support a ground cover of species that are characteristic of savannah/wet prairie systems, including sphagnum moss, pitcher plants, sundews, arrowheads, golden club, arum bog buttons, hatpins, yellow-eyed grass, bloodroot, rush-featherling, cinnamon fern, wiregrass, beakrushes, meadow beauties, colic-root, pipeworts, bladderworts, crow poison, and various sedges and grasses. These species occur much less densely when present underneath thick shrubs.

Titi-dominated areas are dominated by at least one titi species, *Cliftonia monophylla*, *Cyrilla racemiflora*, or *Cyrilla racemiflora* var. *parvifolia*, and mostly occur on the higher, better-drained parts of acid swamps. Individual shrubs range up to 50 feet tall. Vegetation is not differentiated into strata. Large gallberry, fetterbush, and sweet bay may be abundant. Black gum and other woody shrubs and vines are usually present. Canopy trees of slash pine and pond cypress frequently establish as widely spaced individuals.

Sweet bay-dominated areas occupy those portions of acid swamps that are wetter and less frequently burned than titi-dominated acid swamps. The hydrophytic trees are moderately tall in mature stands; individuals in these swamps range up to 75 feet tall. The understory is usually undifferentiated from the canopy, except when slash pines are more abundant and form a distinct, but sparse, overstory. Black gum is commonly abundant as individuals and may assume co-dominance in wetter bay swamps. Swamp bay is invariably common but not a principle dominant.

Soils are infertile, strongly acidic, highly organic sands that are sometimes to often overlain with peat accumulations. The soil is densely shaded, consistently waterlogged or shallowly inundated during the growing season and only occasionally dries during extended droughts. Much of this system occurs on Pamlico Muck and Rutlege Sand. The swamps in the western portion of the site are on Pamlico Muck, which is ponded up to 2 ft. above the surface for 6 months of the year. Whereas Rutlege soils pond much more shallowly for 4 to 6 months.

Fires more often occur at the ecotones adjacent to fire-maintained communities (e.g., pine flatwoods and savannahs) and influence the mixed forested wetland with unequal intensities, leaving an uneven peaty substrate and allowing a few trees and shrubs to survive. Differentiation between fire-maintained communities and mixed forested wetlands is usually distinct and abrupt due to the lack of fine fuels within the acid swamp and the wet setting. Cypress and pines are very tolerant of light surface fires, but muck fires burning into the peat can kill the trees, lower the ground surface, and transform a swamp into a pond or lake, as has occurred on certain parts of the site, such as in the Poley Islands area in the northeast portion of the site.

5.4 Cypress Swamps

Cypress Swamps characteristically occur as large basins or flats and as depressions or domes. An impermeable hardpan is characteristic of the soil conditions in these communities, retarding percolation, prolonging flooding, and establishing persistent saturation, although in this particular setting the persistence of a high water table is also prevalent. A deciduous canopy composed of long-lived pond cypress and black gum dominates the vegetation. Mature cypress trees tolerate permanent inundation indefinitely. Commonly, black gum forms a tall understory with open, sparse hydrophytic shrub undergrowth. The community is simply structured and organized, with low species richness. The species in the undergrowth are usually the same as those of acid swamps, such as described above, but of smaller stature and much less dense. Graminoids and herbaceous forbs are limited to a few scattered plants, with conspicuous ferns. Some examples of this community type have herbaceous species typical of shallow basin marsh communities (e.g., sawgrass, arrowhead, water lilies). Most ground cover vegetation occurs around the

buttresses of the canopy trees or on hummocks. Many shrubs and trees also originate on hummocks.

Fire is normal to this community, particularly the sandy soil-based swamps and domes. These communities are often distinct, but may intergrade with better-drained acid swamps and mixed forested wetlands along edges and with creek swamps along the upper reaches of defined stream courses.

5.5 Upland Pines

Upland pine encompasses two upland community components, depending on the local soils and topography: sandhill, and mesic pine flatwoods. These two community types commonly grade into each other, and mesic pine flatwoods commonly grade into hydric flatwoods and shrub-dominated drainages.

5.5.1 Sandhills

Sandhill communities occur on rolling hills of deep, infertile sand, and generally consist of an open, longleaf pine forest with dense grass-dominated ground cover and a sparse deciduous oak-shrub understory. Saw palmetto is sometimes present but not dense. Pineland three-awn (wiregrass) is the characteristic ground cover species important in facilitating low intensity ground fires, and is the key ground cover component in successful red-cockaded woodpecker habitat. The vegetation is xerophytic and pyrogenic, requiring fire on a regular basis.

5.5.2 Mesic Pine Flatwoods

Mesic Pine Flatwoods occur as open forests of scattered pines with a moderate to dense ground cover of grasses (principally wiregrass) and forbs, with a low stratum of sometimes-dense saw palmetto and other low shrubs. An understory is generally absent. Mesic pine flatwoods occur on nearly level topography with moderately to poorly drained acidic sands, often overlaying hardpan or clay subsoil. The dominant canopy species is longleaf pine or slash pine. Both pines may be present, but the occurrence of both together is restricted to second-growth pinewoods. The shrub species of the ground cover may be more conspicuous than the herbaceous species, except during the early period following a fire. The community type and its species are fire dependent.

Because of the historic land use as plantation the restored communities may retain some of the characteristic of bedding; however, these topographic disturbances will gradually erode to a level topography. It is likely that slightly different plant associations will be present on the beds and furrows, but groundcover shall be native and appropriate to the overall community and function to convey fire. In order to be determined to be successful, the bed and furrow topography shall not convey waters in such a way as to drain the site.

6. Restoration Implementation

6.1 Plan Implementation

Restoration of the site generally entails conversion from a plantation land use through appropriate tree removal and restoring the primary abiotic processes that mold this type of landscape: hydrology and fire. Short-term activities will focus on hydrologic restoration and re-establishment of wetland communities. Restoration of a natural fire regime will help in restoring the vegetation and habitat dynamics of the site. Long-term management activities will continue to enhance the health and viability of the restored wetlands and to maintain the high ecological value of the restored ecosystem. Table B-4 presents the proposed restoration activities by target vegetation community and the associated acreages.

To ensure that the performance standards are met, an adaptive management approach will be an integral part of project implementation. If the Corps/FDEP decides, based on the selected performance standards

and the annual monitoring reports, that the mitigation project is not meeting its goals, SJC will coordinate with the Corps/FDEP and professional ecologists to develop and implement remedial measures. SJC has set aside financial assurances to provide for such an effort.

The plan is divided into post-project community types with sections on proposed future conditions, thinning and clearing for community objectives, burning and hydrology.

6.1.1 Hydric Pine Flatwoods

Proposed Conditions. Hydric Pine Flatwoods occur as open forests of scattered pines with a dense ground cover of grasses, sedges, and forbs with patches of saw palmetto and low, hydrophytic shrubs. The understory stratum, when present, consists of irregular shrubby patches of tall shrubs and saplings. Hydric pine flatwoods occur on nearly level topography with poorly drained acidic sands, often overlaying hardpan or clay subsoil. The dominant canopy species is longleaf pine (*Pinus palustris*) or slash pine (*Pinus elliotii*). The community type and its species are fire dependent and similar to mesic pine flatwoods except for a longer hydroperiod and the increased presence of hydrophytic vegetation. Hydric pine flatwoods will grade into mesic flatwoods, savannah, and mixed forested wetland.

Existing Conditions. Upland and hydric pine plantation, titi swamp, and shrub swamp.

Acreage. 838.1 acres.

Restoration. Restoration of this community type will focus on slash pine thinning, prescribed burning, and hydrologic restoration.

Canopy. The pines will be thinned to achieve a more typical pine woods tree density, about 60 to 112 trees per acre ($\leq 25\%$ cover) to achieve a basal area of 40 to 70 ft²/acre. The removal of canopy trees will be done mechanically with typical logging equipment when site conditions warrant its use. During times when site conditions are not conducive to use of such equipment, other appropriate means will be used to remove the trees such that impacts to the substrate will not occur. In areas where the pines are too small to harvest, the areas will be roller chopped and then pines cut with a hydro-axe to adjust the fuel structure of the site, preparing it for burning.

Burn Prescription. Growing season burns every 2 to 8 years (growing season is April through July based on James et al. (2003)). Initial years will be on a 2 to 4 year schedule to foster redevelopment of the ground cover. See Fire Management Plan (Attachment B-2).

Ground Cover. Plant species observations collected during field activities within the DSMB site indicate that sufficient species and individuals presently exist in the ground cover to regenerate the desired communities. Ground cover species are expected to seed in from the surrounding forests and from the seed bank. The proposed prescribed fire should stimulate species in the seed bank and declining and moribund individuals. If after three years the species diversity and density are not clearly trending toward successful establishment of target conditions, then native sod plugs, seeding or plantings will be done.

Hydrology. Hydric and mesic sites that have been bedded for pine plantation will be roller chopped at periodic intervals to restore a more natural internal drainage pattern. The road and drainage network will be re-engineered to retain water on the site for longer periods of time, restoring historical hydroperiod and hydrologic processes. Exhibit B-1-7 shows the locations of the hydrologic work proposed at the DSMB. The activities planned for the site are installation of hardened low water crossings and bermed weir structures (Exhibit B-1-7). The crossings will be used on the interior of the site on permittee-owned roads. The bermed weirs will be used where the site meets Steele Field Road and will be constructed immediately upstream of the road right-of-way. The elevation of the crossings will be set initially by installing risers on the existing culverts (Exhibit B-1-7 & Attachment B-9) for the interior roads and by installing the weirs next to Steele Field Road. Surface and ground water level data and field-verification that the appropriate elevation has been set will be used to verify the invert elevations at each crossing. If the invert elevations of the structures are found to be too high or low, they will be manipulated based on the field data collection results during the first few years of the project. That data will be used to verify the final elevations for each structure.

6.1.2 Savannahs

Condition. Savannahs are flat, poorly drained communities of graminaceous vegetation that support a treeless to open canopy of pine &/or pond cypress. Characteristic species tolerate both flooding and extensive dry periods. Plant composition varies with soils, fire regime, and hydroperiod. The community is composed of a dense ground cover of grasses, sedges, and herbaceous forbs. The ground cover is very diverse and species-rich, with a dominance of grasses and sedges, especially wiregrass, beakrushes, nutrushes, sedges and pitcher plants. Hydrophytic shrubs and trees are absent, widely scattered, or confined to the ground cover as coppice sprouts. Pond cypress, swamp tupelo, sweet bay, red maple, and titi may establish as isolated patches or coppicing groups. The community type and its species are fire dependent. Savannah communities commonly grade into hydric and mesic pine flatwoods, cypress swamps, and mixed forested wetlands.

Existing Conditions. Upland and hydric pine plantation, titi swamp, and shrub swamp.

Acreage. 391.6 acres.

Restoration. Restoration of this community type will focus on slash pine removal, prescribed burning, and hydrologic restoration.

Canopy. The pines will be thinned to achieve a more typical savannah tree density, 0 to 28 trees per acre to result in less than 10% canopy cover and a basal area less than 40 ft²/acre (Haddock 2001; Rheinhardt et al 2002). Some pine trees will be left in the initial years to provide pine needles for fuel. If these trees need to be thinned further, they will be felled in place and left to burn. Existing cypress will be retained. The removal of canopy trees will be done mechanically with typical logging equipment when site conditions warrant its use. During times when site conditions are not conducive to use of equipment, other appropriate means will be used to remove the trees such that impacts to the substrate will not occur. In areas where the pines are too small to harvest, the areas will be roller chopped and then pines cut with a hydro-axe to adjust the fuel structure of the site, preparing it for burning. The savannah sites will be managed to achieve a goal of <40 BA.

Burn Prescription. Growing season burns every 2 to 4 years (growing season is April through July based on James et al. (2003)). See Fire Management Plan (Attachment B-2).

Ground Cover. Plant species observations collected during field activities within the DSMB site indicate that sufficient species and individuals presently exist in the ground cover to regenerate the desired communities. Ground cover species are expected to seed in from the surrounding forests and from the seed bank. The proposed prescribed fire should stimulate species in the seed bank and declining and moribund individuals. If after three years the species diversity and density are not clearly trending toward successful establishment of target conditions, then native sod plugs, seeding or plantings will be done.

Hydrology. Hydric and mesic sites that have been bedded for pine plantation will be roller chopped at periodic intervals to restore a more natural internal drainage pattern. The road and drainage network will be re-engineered to retain water on the site for longer periods of time, restoring historical hydroperiod and hydrologic processes. Exhibit B-1-7 shows the locations of the hydrologic work proposed at the DSMB. The activities planned for the site are installation of hardened low water crossings and bermed weir structures (Exhibit B-1-7). The crossings will be used on the interior of the site on permittee-owned roads. The bermed weirs will be used where the site meets Steele Field Road and will be constructed immediately upstream of the road right-of-way. The elevation of the crossings will be set initially by installing risers on the existing culverts (Exhibit B-1-7 & Attachment B-9) for the interior roads and by installing the weirs next to Steele Field Road. Surface and ground water level data and field-verification that the appropriate elevation has been set will be used to verify the invert elevations at each crossing. If the invert elevations of the structures are found to be too high or low, they will be manipulated based on the field data collection results during the first few years of the project. That data will be used to verify the final elevations for each structure.

6.1.3 Mixed Forested Wetlands

Proposed Condition. These acid, forested basin swamps are vegetated with hydrophytic trees and shrubs that can withstand an extended hydroperiod. In this ecosystem, pond cypress and slash pine are often important canopy components, as well as several broadleaf tree and shrub species tolerant of hydric conditions, such as sweet bay, myrtle-leaf holly, swamp tupelo, and black and white titi. Community composition varies, with no single species or species group exhibiting dominance over substantial areas, and these communities may exhibit a mosaic of shrub swamp, cypress swamp, mixed forested wetland, and savannah. Most ground cover vegetation and many shrubs and trees occur around the buttresses of the canopy trees or on hummocks. This community type commonly grades into hydric pine flatwoods, savannahs, and cypress swamps. Soils are infertile, strongly acidic, highly organic sands that are sometimes to often overlain with peat accumulations. The soil is densely shaded, consistently waterlogged or shallowly inundated during the growing season and only occasionally dries during extended droughts.

Existing Conditions. Upland and hydric pine plantation, titi swamp, and shrub swamp.

Acreage. 1,147.0 acres.

Restoration. Restoration of this community type will focus on slash pine removal, shrub cover reduction, and hydrologic restoration.

Canopy. Mixed forested wetlands will be managed to suppress excessive cover by shrubs and encourage development of an appropriate canopy stratum. Where in plantation conditions, the pines will be thinned to about 60 trees per acre, about 40 ft²/acre basal area ($\leq 10\%$ cover). If necessary to reduce shrub density, these wetlands will be partially cleared using the Gyro-Trac or by hand clearing. Pond cypress and/or hardwoods, such as swamp tupelo, are proposed for planting in areas where these species are not present or where natural re-seeding is not expected to be effective. One-gallon trees will be planted randomly at a density of 100 trees/acre on irregular centers.

Burn Prescription. Fire will be allowed to burn in from surrounding communities. See Fire Management Plan (Attachment B-2).

Ground Cover. Plant species observations collected during field activities within the DSMB site indicate that sufficient species and individuals presently exist in the ground cover to regenerate the desired communities. Ground cover species are expected to seed in from the surrounding forests and from the seed bank. The proposed prescribed fire should stimulate species in the seed bank and declining and moribund individuals. If after three years the species diversity and density are not clearly trending toward successful establishment of target conditions, then native sod plugs, seeding or plantings will be done.

Hydrology. Hydric and mesic sites that have been bedded for pine plantation will be roller chopped at periodic intervals to restore a more natural internal drainage pattern. The road and drainage network will be re-engineered to retain water on the site for longer periods of time, restoring historical hydroperiod and hydrologic processes. Some expansion of wetland jurisdictional area is expected. Exhibit B-1-7 shows the locations of the hydrologic work proposed at the DSMB. The activities planned for the site are installation of hardened low water crossings and bermed weir structures (Exhibit B-1-7). The crossings will be used on the interior of the site on permittee-owned roads. The bermed weirs will be used where the site meets Steele Field Road and will be constructed immediately upstream of the road right-of-way. The elevation of the crossings will be set initially by installing risers on the existing culverts (Exhibit B-1-7 & Attachment B-9) for the interior roads and by installing the weirs next to Steele Field Road. Surface and ground water level data and field-verification that the appropriate elevation has been set will be used to verify the invert elevations at each crossing. If the invert elevations of the structures are found to be too high or low, they will be manipulated based on the field data collection results during the first few years of the project. That data will be used to verify the final elevations for each structure.

6.1.4 Cypress Swamps

Proposed Condition. These communities occur as depression swamps or domes. An impermeable hardpan is characteristic of the soil conditions in these communities, retarding percolation, prolonging flooding, and establishing persistent saturation, although in this particular setting the persistence of a high water table is also prevalent. A deciduous canopy composed of long-lived pond cypress and myrtle-leaf holly in domes or swamp tupelo in depression swamps dominates the vegetation. The community is simply structured and organized, with low species richness. Hydrophytic species in the undergrowth are usually the same as those in mixed forested wetlands, but of smaller stature and much less dense. Graminoids and herbaceous forbs are limited to a few scattered plants, which may include ferns, sawgrass, arrowhead, and water lilies. Most ground cover vegetation and many shrubs and trees occur around the buttresses of the canopy trees or on hummocks. These communities are often distinct, but the depression swamps may intergrade with savannahs, shrub swamps, and mixed forested wetlands along edges. Cypress domes may intergrade with creek swamps along the upper reaches of defined stream courses.

Existing Conditions. Upland and hydric pine plantation and titi, cypress, and shrub swamps.

Acreage. 74.4 acres.

Restoration. Restoration of this community type will focus on slash pine removal and hydrologic restoration.

Canopy. Existing stands of pond cypress will be retained. Planted pines will be removed by logging. The removal of canopy trees will be done mechanically with typical logging equipment when site conditions warrant its use. During times when site conditions are not conducive to use of such equipment, other means will be used to remove the trees such that impacts to the substrate will not occur. In areas where the pines are too small to harvest, the areas will be roller chopped and then pines cut with a hydro-axe to adjust the fuel structure of the site, preparing it for burning. Pond cypress are proposed for planting in areas where pond cypress are not present or where natural re-seeding is not expected to be effective. One-gallon pond cypress will be planted randomly at a density of 150 trees/acre on irregular centers.

Burn Prescription. Fire will be allowed to burn into cypress swamps from surrounding communities. See Fire Management Plan (Attachment B-2).

Ground Cover. Plant species observations collected during field activities within the DSMB site indicate that sufficient species and individuals presently exist in the ground cover to regenerate the desired communities. Ground cover species are expected to seed in from the surrounding forests and from the seed bank. The proposed prescribed fire should stimulate species in the seed bank and declining and moribund individuals. If after three years the species diversity and density are not clearly trending toward successful establishment of target conditions, then native sod plugs, seeding or plantings will be done.

Hydrology. Hydric and mesic sites that have been bedded for pine plantation will be roller chopped at periodic intervals to restore a more natural internal drainage pattern. The road and drainage network will be re-engineered to retain water on the site for longer periods of time to restore historical hydroperiod and hydrologic processes. Exhibit B-1-7 shows the locations of the hydrologic work proposed at the DSMB. The activities planned for the site are installation of hardened low water crossings and bermed weir structures (Exhibit B-1-7). The crossings will be used on the interior of the site on permittee-owned roads. The bermed weirs will be used where the site meets Steele Field Road and will be constructed immediately upstream of the road right-of-way. The elevation of the crossings will be set initially by installing risers on the existing culverts (Exhibit B-1-7 and Attachment B-9) for the interior roads and by installing the weirs next to Steele Field Road. Surface and ground water level data and field-verification that the appropriate elevation has been set will be used to verify the invert elevations at each crossing. If the invert elevations of the structures are found to be too high or low, they will be manipulated based on the field data collection results during the first few years of the project. That data will be used to verify the final elevations for each structure.

6.1.5 Upland Pines

Proposed Condition. Upland pine encompasses two upland community types, sandhill, and mesic pine flatwoods. These two community types commonly grade into each other, and mesic pine flatwoods commonly grade into hydric flatwoods and shrub-dominated drainages. Both communities are fire-dependent. Sandhill communities occur on rolling hills of deep, infertile sand, and generally consist of an open, longleaf pine forest with dense grass-dominated ground cover and a sparse deciduous oak-shrub understory. Saw palmetto is sometimes present but not dense. Wiregrass (*Aristida stricta*) is the characteristic ground cover species important in facilitating low intensity ground fires, and is the key ground cover component in successful red-cockaded woodpecker habitat.

Mesic pine flatwoods occur as open forests of scattered pines with a moderate to dense ground cover of grasses (principally wiregrass) and forbs, with a low stratum of sometimes-dense saw palmetto and other low shrubs. An understory is generally absent. Mesic pine flatwoods occur on nearly level topography with moderately to poorly drained acidic sands, often overlaying hardpan or clay subsoil. The dominant canopy species is longleaf pine or slash pine. Both pines may be present, but the occurrence of both together is primarily restricted to ecotones and second-growth. Ground cover shrub species may be more conspicuous than herbaceous species, except soon after a fire.

Existing Conditions. Upland pine plantation.

Acreage. 545.6 acres.

Restoration. Restoration of this community type will focus on slash pine thinning and prescribed burning.

Canopy. Thin pine canopy to about 60 to 112 trees per acre ($\leq 25\%$ cover) to achieve a basal area of 40 to 70 ft²/acre. The removal of canopy trees will be done mechanically with typical logging equipment when site conditions warrant its use. During times when site conditions are not conducive to use of equipment, other appropriate means will be used to remove the trees such that impacts to the substrate will not occur. In areas where the pines are too small to harvest, the areas will be roller chopped and then pines cut with a hydro-axe to adjust the fuel structure of the site, preparing it for burning. Grass-stage longleaf pines may be planted under the thinned plantation pine canopy to facilitate the restoration of an appropriate canopy cover. In cases where very few or no pines exist in a planting polygon, longleaf pines may be planted at a density of 400 trees per acre, in a staggered manner. The stand will be managed toward the goal of 40 to 70 BA.

Burn Prescription. Growing season burns every 2 to 6 years (growing season is April through July based on James et al. (2003)). See Fire Management Plan (Attachment B-2).

Ground Cover. Plant species observations collected during field activities within the DSMB site indicate that sufficient species and individuals presently exist in the ground cover to regenerate the desired communities. Ground cover species are expected to seed in from the surrounding forests and from the seed bank. The proposed prescribed fire should stimulate species in the seed bank and declining and moribund individuals. If necessary, the shrub understory will be reduced using a Gyro-Trac. If after three years the species diversity and density are not clearly trending toward successful establishment of target conditions, then native sod plugs, seeding or plantings will be done.

Hydrology. Sites that have been bedded will be roller chopped at periodic intervals to restore a more natural internal drainage pattern. No other hydrologic changes are necessary.

6.2 Schedule

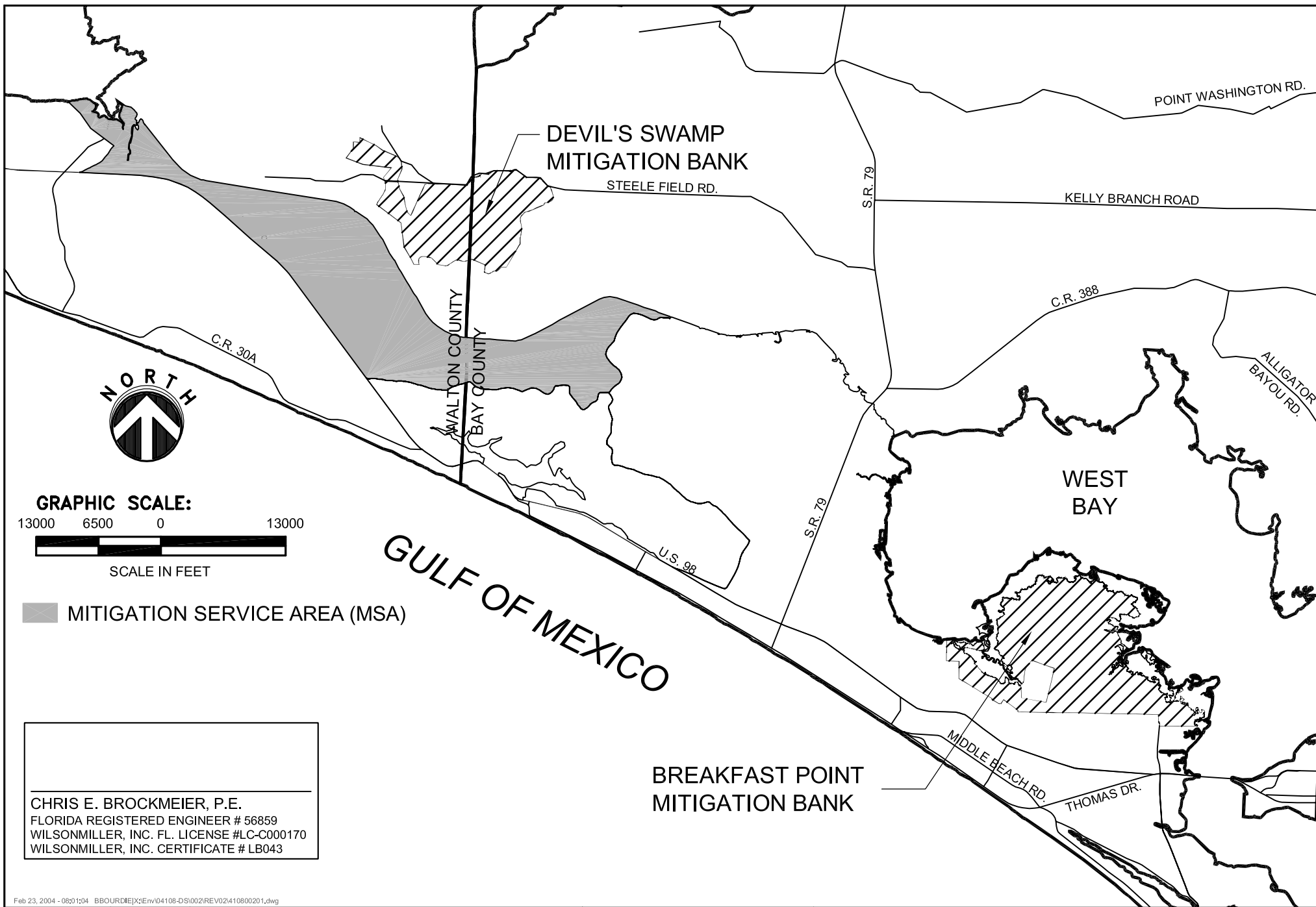
Restoration activities will be performed in phases, which are defined by geographical areas (Exhibit B-1-7) and would be stand-alone projects should the entire bank not be completed. Work begins on Phase 1 in year 1 with selective logging, shrub and brush removal, and initial burning, then installation of the hydrologic improvements and exotic control activities as detailed below. Other phases are anticipated to follow a similar schedule, with each successive phase being initiated on a yearly basis, as presented in the following table. However, the Sponsor, in consultation with the authorizing agencies, may elect to postpone the initiation of a phase. Conversely, the conservation easement and financial assurances may be implemented in advance of other implementation steps. Once initiated, the physical mitigation activities in the phase shall proceed in a timely manner, such that the logging and hydrologic improvements are completed within one year, and the burn is implemented as soon as conditions are appropriate.

Table B-5. Schedule for Implementation of Restoration and Monitoring Activities

Phase	Task	2004	2005	2006	2007	2008	2009	2010
1	Financial assurances & conservation easement	X						
1	Selective Logging & brush reduction	March-Dec						
1	Burn		Mar-Aug		Mar-Aug		Mar-Aug	
1	Hydrologic improvements		March-May					
1	Exotic control		All	All	All	All	All	All
1	Monitoring		Oct.	Oct.	Oct.	Oct.	Oct.	Oct.
1	Annual Report		Dec.	Dec.	Dec.	Dec.	Dec.	Dec.
2	Financial assurances & conservation easement	X						
2	Selective Logging & brush reduction	August-Dec	Jan-June					
2	Burn			Mar-Aug		Mar-Aug		Mar-Aug
2	Hydrologic improvements			March-May				
2	Exotic control			All	All	All	All	All
2	Monitoring		Oct.	Oct.	Oct.	Oct.	Oct.	Oct.
2	Annual Report		Dec.	Dec.	Dec.	Dec.	Dec.	Dec.
3	Financial assurances & conservation easement	X						
3	Selective Logging & brush reduction		March-Dec					
3	Burn			Mar-Aug		Mar-Aug		Mar-Aug
3	Hydrologic improvements			March-May				
3	Exotic control			All	All	All	All	All
3	Monitoring		Oct.	Oct.	Oct.	Oct.	Oct.	Oct.
3	Annual Report		Dec.	Dec.	Dec.	Dec.	Dec.	Dec.

Attachment B-1 – EXHIBITS

Exhibit B-1-1	Location & Service Area Map
Exhibit B-1-2	Aerial Photo, 1999
Exhibit B-1-3	Quad Topography Map
Exhibit B-1-4	Soils Map
Exhibit B-1-5	Existing Land Use and Land Cover
Exhibit B-1-6	Proposed Land Use and Land Cover
Exhibit B-1-7	Phases, Hydrologic Improvements, and Monitoring Locations
Exhibit B-1-8	Historic Aerial, 1949
Exhibit B-1-9	Turbidity Details
Exhibit B-1-10	Existing Land Use and Land Cover (11x17 color)
Exhibit B-1-11	Proposed Land Use and Land Cover (11x17 color)



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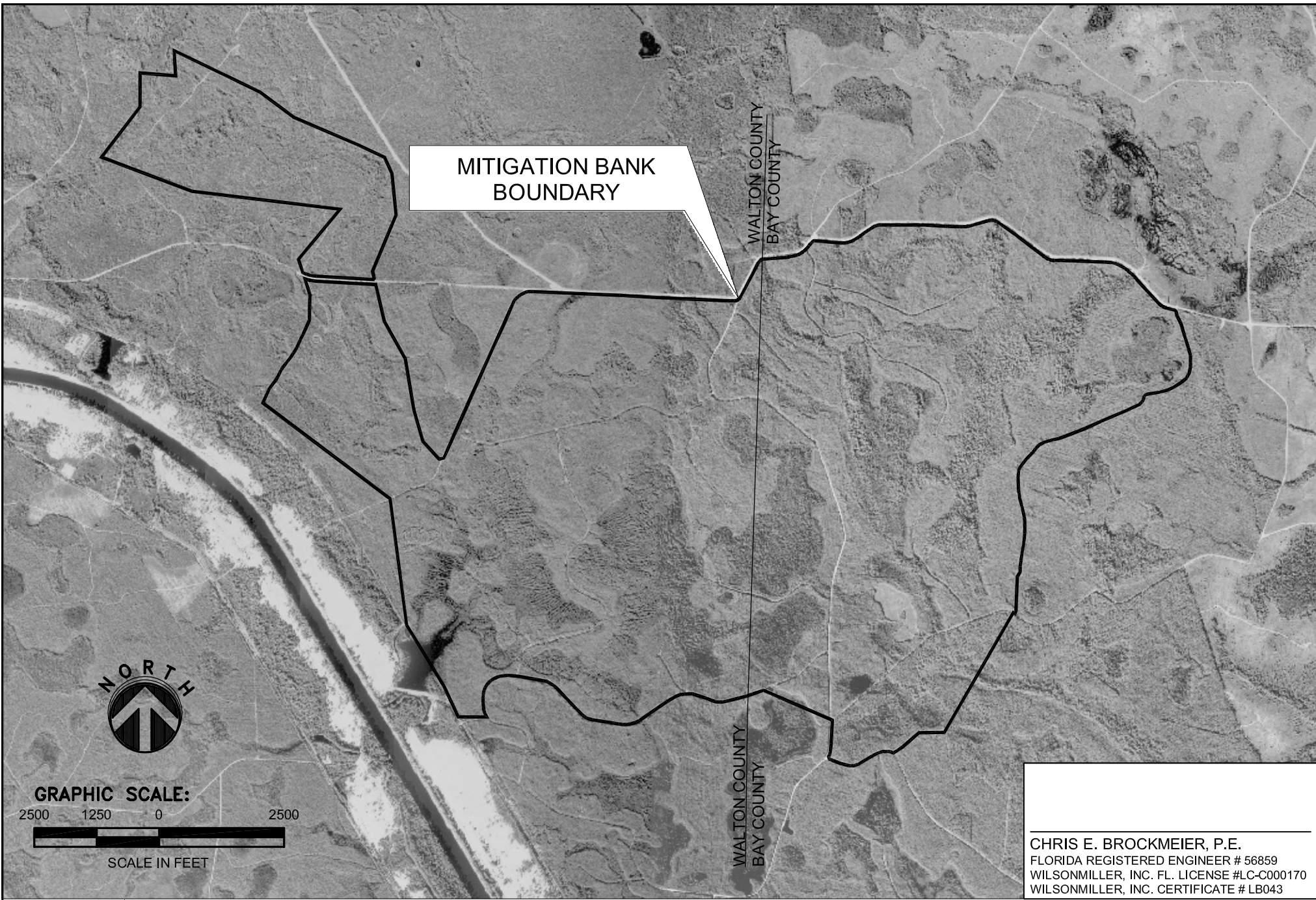
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EXHIBIT B-1-1

PROJECT:	DEVIL'S SWAMP MITIGATION BANK
CLIENT:	ST. JOE COMPANY
TITLE:	LOCATION & SERVICE AREA MAP



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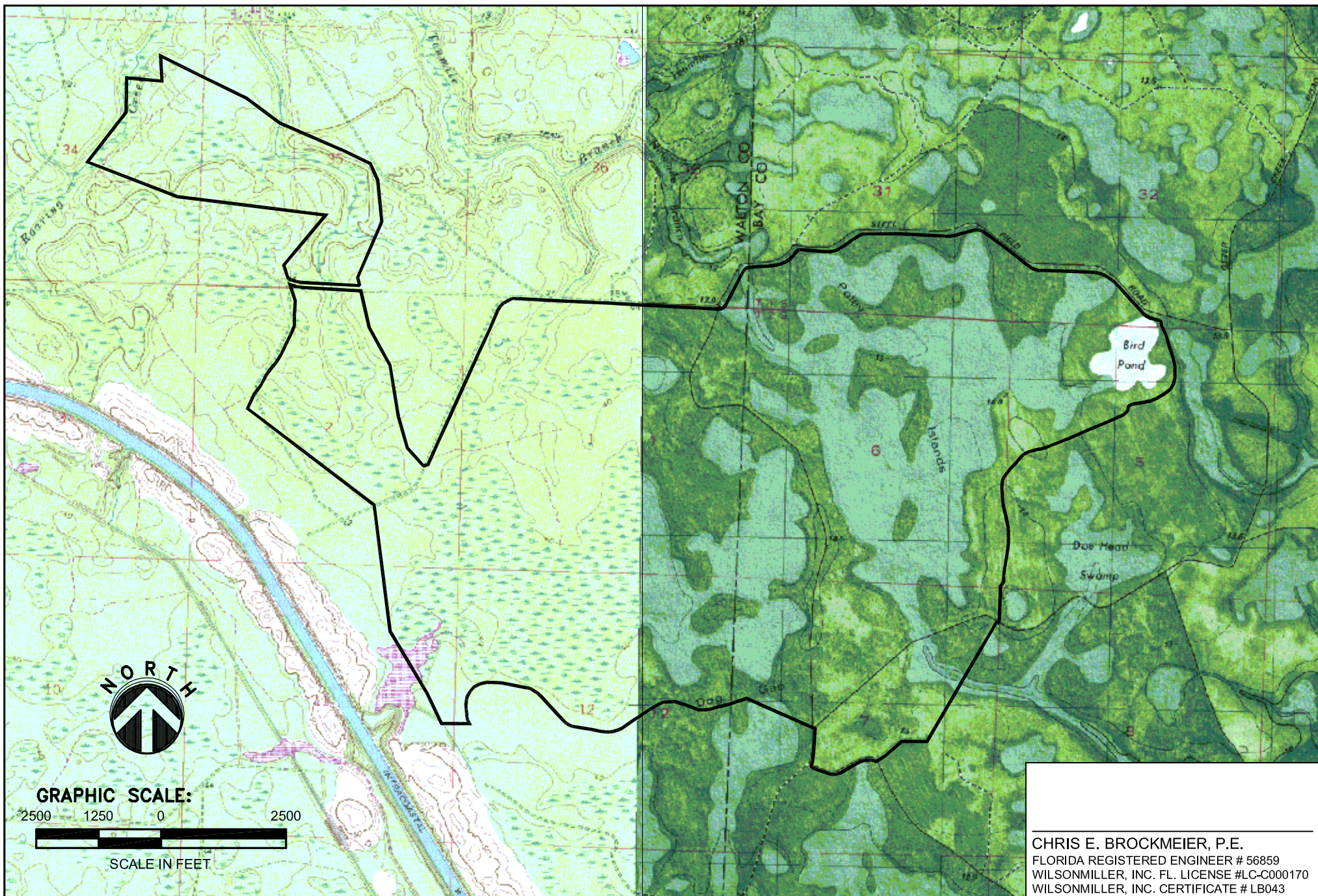
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EXHIBIT B-1-2

PROJECT:	DEVIL'S SWAMP MITIGATION BANK
CLIENT:	ST. JOE COMPANY
TITLE:	AERIAL PHOTO, 1999



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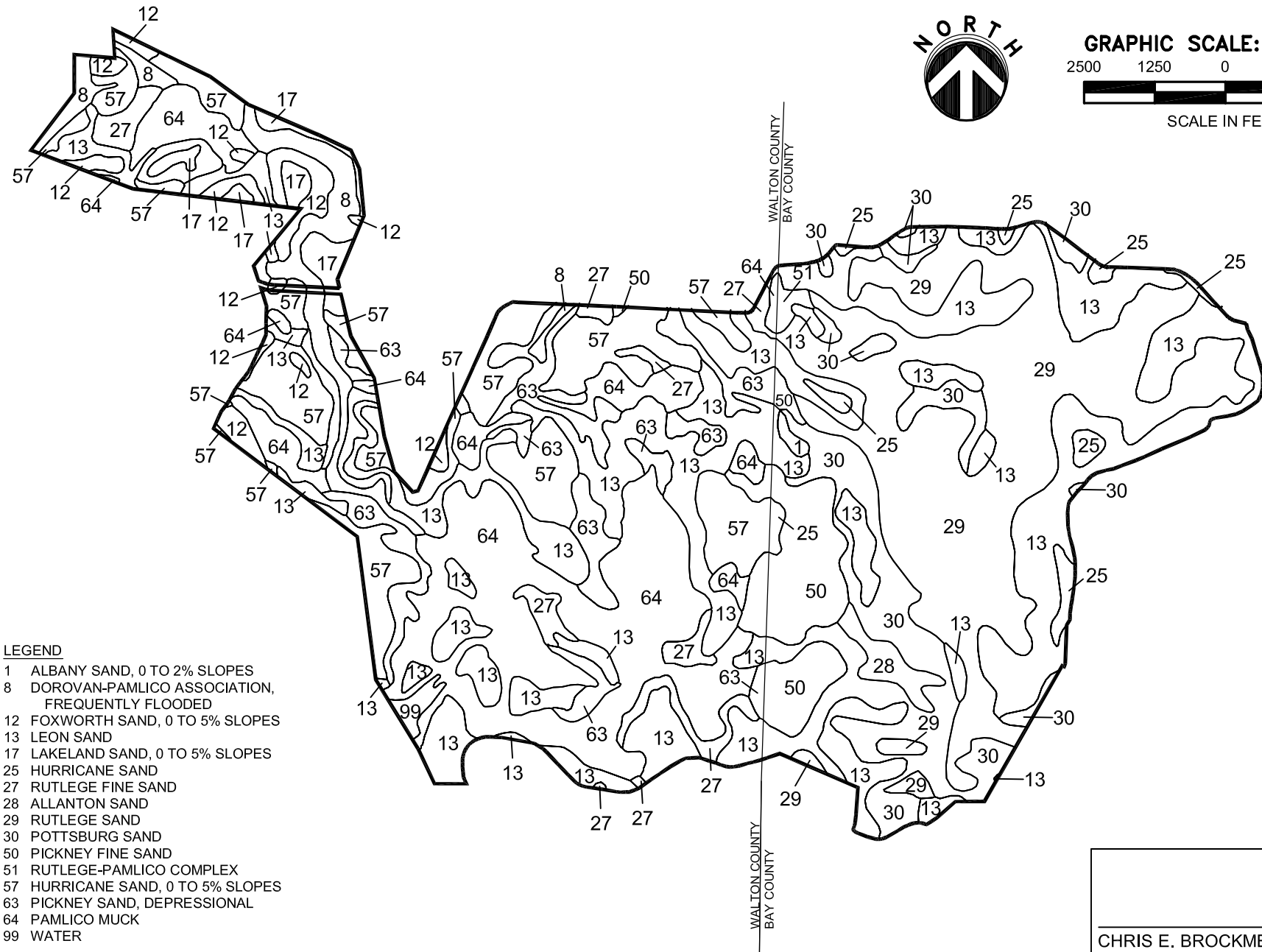
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EXHIBIT B-1-3

PROJECT: DEVIL'S SWAMP MITIGATION BANK
CLIENT: ST. JOE COMPANY
TITLE: QUAD TOPOGRAPHY MAP

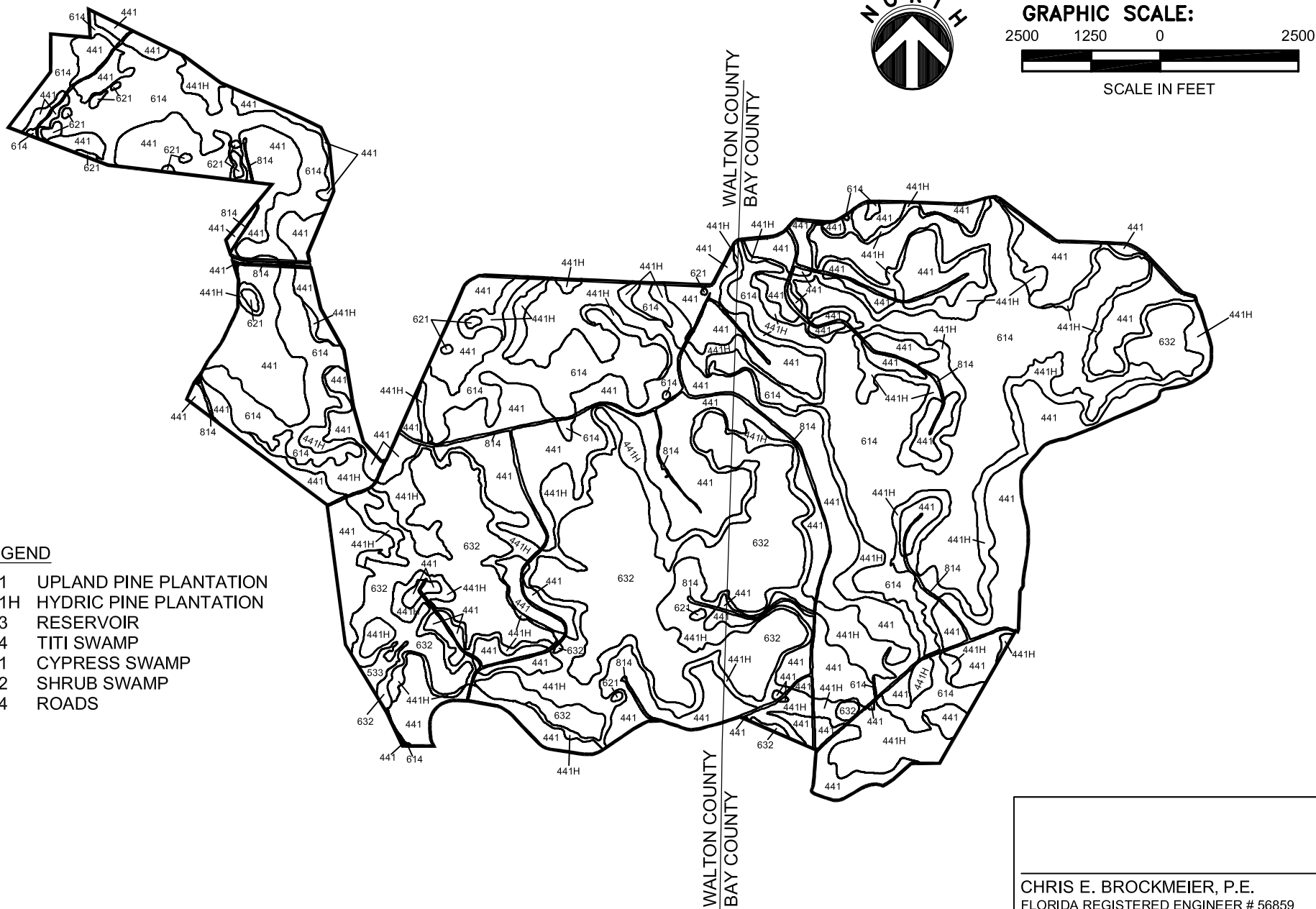


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SHEET NUMBER: 4 OF 9	REVISION:		TITLE: SOILS MAP

EXHIBIT B-1-4



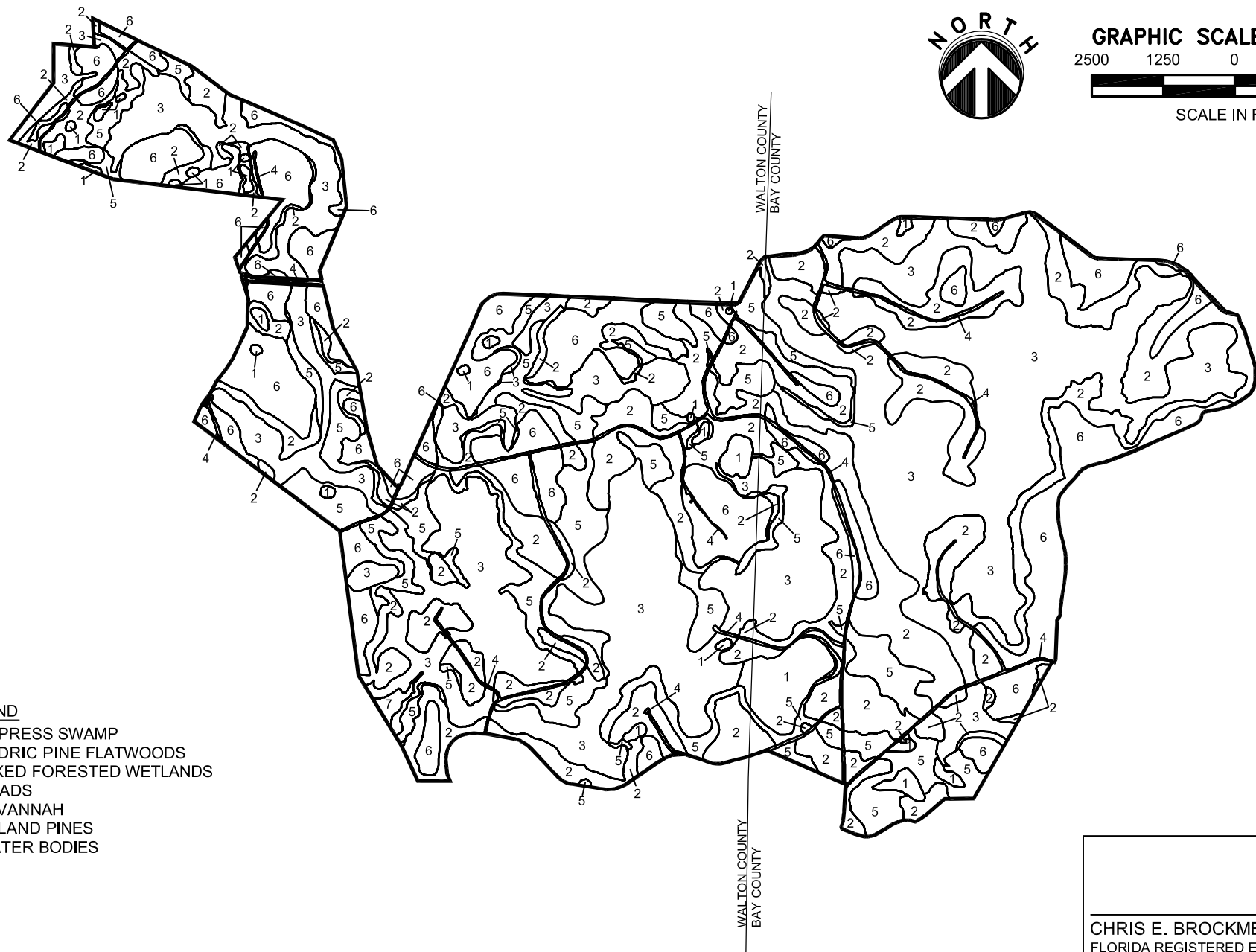
LEGEND

- 441 UPLAND PINE PLANTATION
- 441H HYDRIC PINE PLANTATION
- 533 RESERVOIR
- 614 TITI SWAMP
- 621 CYPRESS SWAMP
- 632 SHRUB SWAMP
- 814 ROADS

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SHEET NUMBER: 5 OF 9	REVISION:			TITLE: EXISTING LAND USE & LAND COVER



- LEGEND**
- 1 CYPRESS SWAMP
 - 2 HYDRIC PINE FLATWOODS
 - 3 MIXED FORESTED WETLANDS
 - 4 ROADS
 - 5 SAVANNAH
 - 6 UPLAND PINES
 - 7 WATER BODIES

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EXHIBIT B-1-6

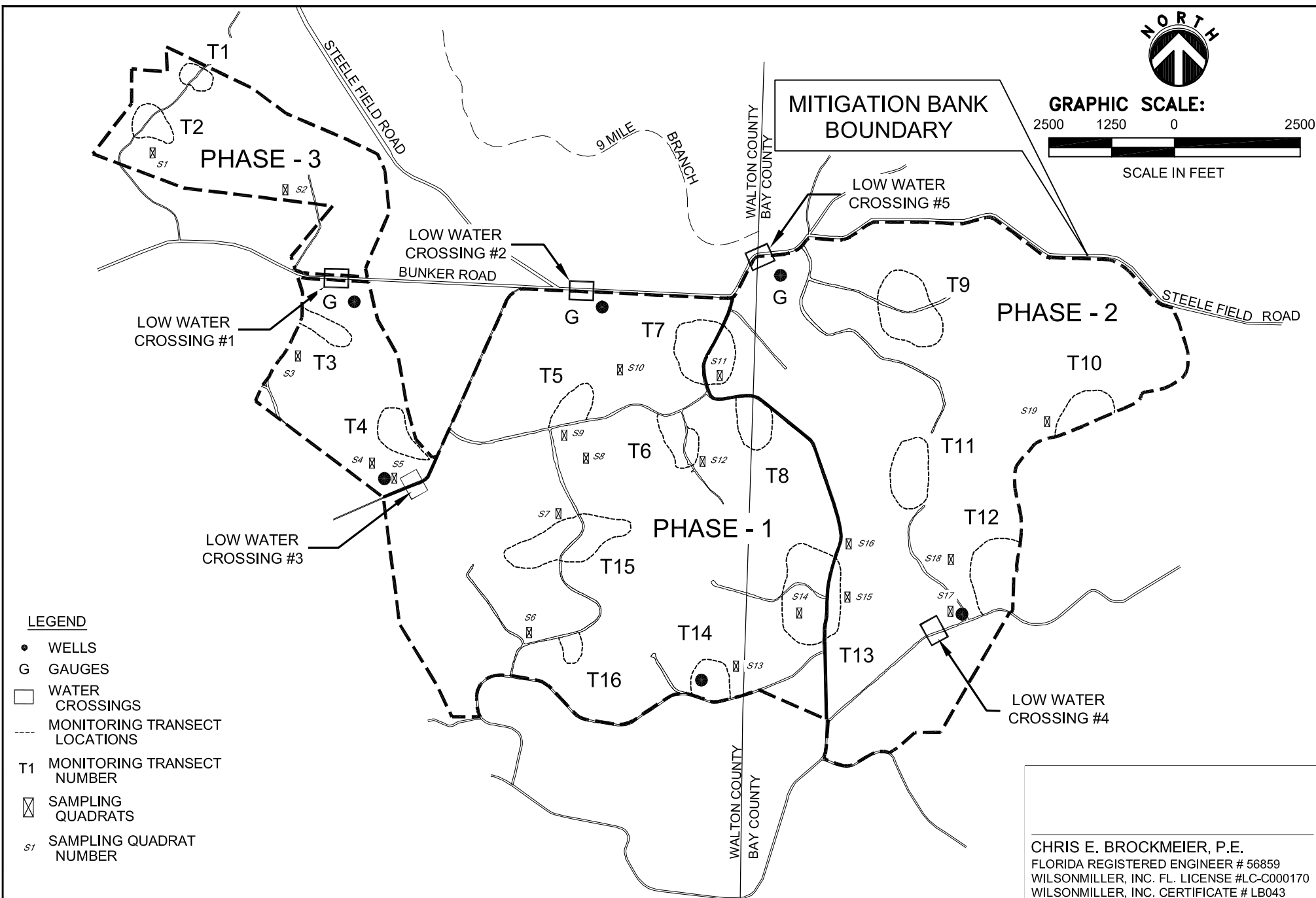
PROJECT:	DEVIL'S SWAMP MITIGATION BANK
CLIENT:	ST. JOE COMPANY
TITLE:	PROPOSED LAND USE & LAND COVER



GRAPHIC SCALE:

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SCALE IN FEET



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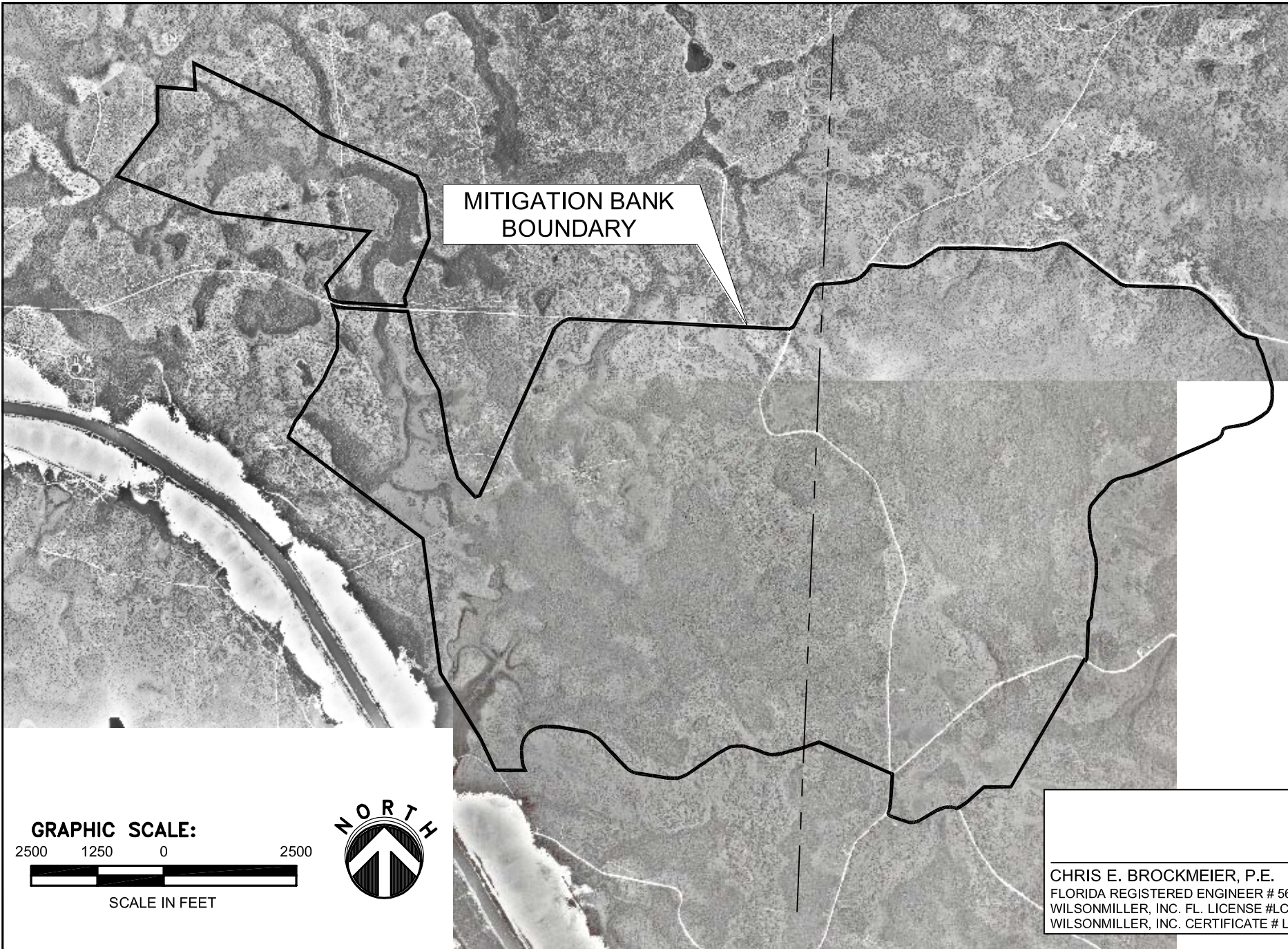
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EXHIBIT B-1-7

PROJECT:	DEVIL'S SWAMP MITIGATION BANK
CLIENT:	ST. JOE COMPANY
TITLE:	PHASES, HYDROLOGIC IMPROVEMENTS AND MONITORING LOCATIONS



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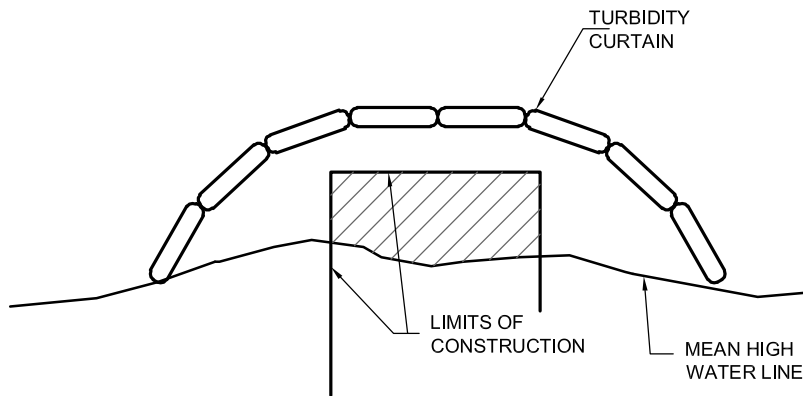
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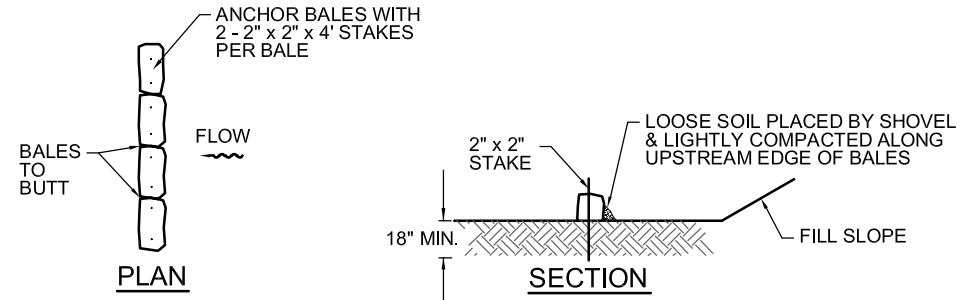
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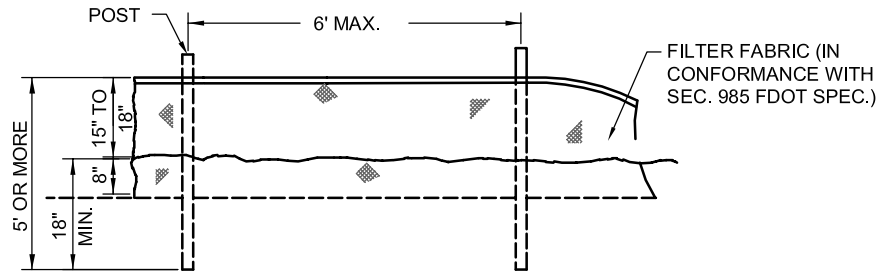
TYPICAL TURBIDITY CURTAIN

NOTE:
TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS.



TYPICAL BALE SILT BARRIER

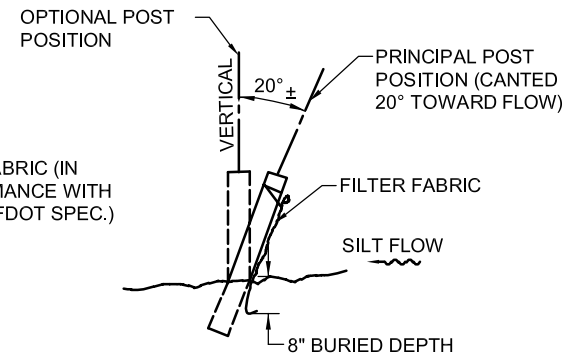
N.T.S.



ELEVATION

TYPICAL SILT FENCE

N.T.S.

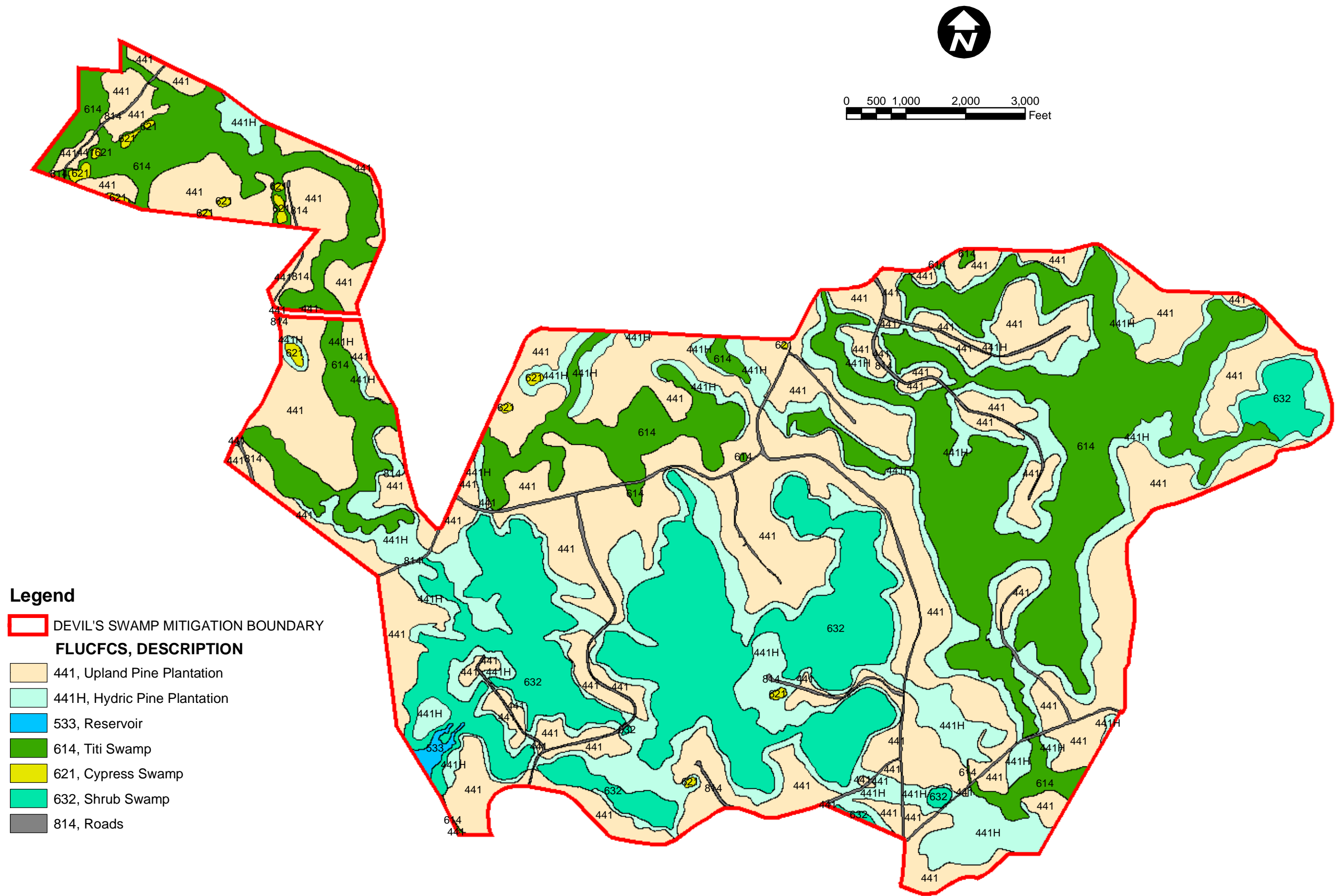


SECTION

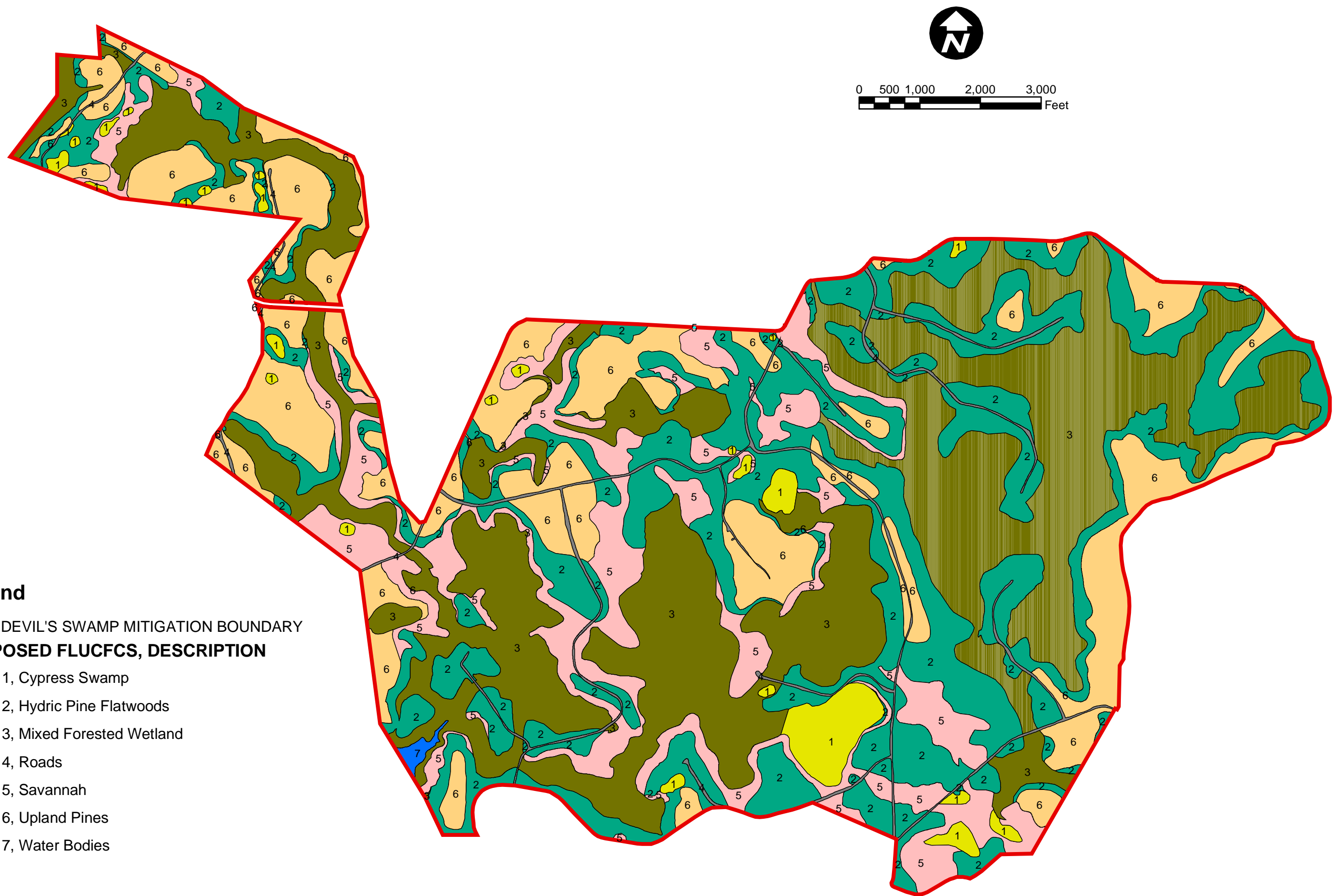
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DRAWN BY/EMP NO. WMB/1467	SCALE: N.T.S.			CLIENT: ST. JOE COMPANY
SHEET NUMBER: 9 OF 9	REVISION:			TITLE: TURBIDITY DETAILS



**DEVIL'S SWAMP
MITIGATION BANK
EXISTING LAND USE**



- Legend**
- DEVIL'S SWAMP MITIGATION BOUNDARY
 - PROPOSED FLUCFCS, DESCRIPTION**
 - 1, Cypress Swamp
 - 2, Hydric Pine Flatwoods
 - 3, Mixed Forested Wetland
 - 4, Roads
 - 5, Savannah
 - 6, Upland Pines
 - 7, Water Bodies

ATTACHMENT B-2 – FIRE MANAGEMENT PLAN

Executive Summary

Ten burn units have been designated within the three phases of the Devil's Swamp Mitigation Area (DS); prescriptions are included with this synopsis. The timing and objectives of fire are outlined in the following prescriptions.

Burning will occur predominantly during the early growing season: growing season is March thru August. Generally, the burns will occur during the growing season every two to four years during the initial series of burns. Fire will be allowed to burn into all wetland systems when conditions allow and when it would not result in a catastrophic situation.

The conditions of the prescription are intended to inhibit succession of woody species, promote fire-adapted species, and stimulate seed production of desirable herbs. Along with ecological considerations, the prescription has been specifically written to comply with Florida's open-burning laws and liability considerations. Preservation of life and property by safe implementation of prescribed fire is the primary consideration of the Prescribed Burn Manager.

General description of burn units

Ten burn units will be established for this project. The burn units are of a size that allows a more manageable application of fire than that of a large, single burn unit. Burns will be conducted in each unit when specific contingencies (listed below) for burn units have been met. Prescribed burns simulating natural fire events will be integral in restoring and maintaining the desired vegetative communities and ecotypes within the project site.

Primary resource objectives

The objective of this burn plan is to apply fire to the project area by phase to facilitate replacement of planted pine community with several different vegetative communities including: hydric pine flatwoods, savannah, cypress swamp, mixed forested wetland, and upland pines. The burns are intended to mimic natural burn frequencies and the burn objectives are best described as ecological. The initial burns are intended to exhibit high intensity to consume standing biomass, kill woody vegetation (primarily titi and dense shrubbery) and to encourage the growth of fire-dependent grasses and forbs. Later burns are intended to maintain the restoration, and further the long-term ecological objectives of the mitigation plan. Burn coverage of 80% or more will be considered acceptable to restore and maintain these systems within the project area, and is the criterion by which mitigation credits will be released.

Burn application contingencies

1. Any fire lines needed to insure safe management of fire within the burn units will be established prior to burning.
2. Burn units containing stands of merchantable timber will be thinned by 70% prior to burning, unless the mitigation plan dictates otherwise for that unit.
3. Several burn units must be burned early in the growing season (March) to capture northerly winds. This is necessary to avoid smoke management problems associated with the local area.
4. Local historical locations (cemeteries, etc.) must be protected and respected.
5. Any naturally occurring fire or those fires that burn outside of prescription will be deemed 'wildfires'. Any ecological damage that results from extinguishing such fires shall be restored by the Sponsor within two weeks of its occurrence.

Site preparation

Roads and natural features were used to delineate ten units. A permanent firebreak that utilizes existing features will be maintained along the boundaries of the mitigation area. In light of the ecological objectives of this management activity, disking will be utilized in lieu of plowing. Disking will cause minimal soil disturbance while exposing enough mineral soil to serve as a firebreak.

Safety considerations

Numerous safety zones are present utilizing the internal logging roads. All personnel present at the burn will carry Personal Protective Equipment (PPE). All radio communications will utilize plain language. Signs will be available for posting on County Highways in the event conditions cause low visibility on this roadway. All adjacent landowners will be contacted in writing at least thirty days prior to burn.

Prescription

The parameters below are included as general guidelines. However, to insure compliance with Florida's open burn laws, event-specific prescriptions will be drafted and filed prior to each burn. The parameters identified in each prescription may differ from those listed below at the discretion and judgment of the Prescribed Burn Manager.

Burn schedule:

The burn units will be burned on a two/four-year rotation beginning with the units in Phase 1: burning in units of phases 2 and 3 will start at later dates. The growing season burns will be timed to insure optimal smoke management and provide maximum kill of woody species. All subsequent burns will be growing season burns.

It may not be practical to completely separate the herbaceous and forested communities into burn units in all years, so it is anticipated that the initial several burns will be site-wide. As a result, there will be more frequent fire during the restoration phase in order to "re-set" the vegetative community. An adaptive management approach will be used to determine the appropriate fire frequency for the site.

The actual fire frequency will be dependent on available fuels and drought conditions; that is, sufficient fuels must exist to carry a fire at any given time and drought conditions must not be such that burning would be detrimental to the ecological integrity of the project.

The initial burn will be fired in three burn units of Phase 1 labeled in Figure 1. Burn unit boundaries utilize existing man-made and natural features that diminish the need for additional fire lines with the exception of the southern boundary of Phase 2. Subsequent burns may occur in units different from those presented in this plan.

Chronology:

Phase 1 - Burn Unit 1, Burn Unit 2, Burn Unit 3; Phase 2 - Burn Unit 1, Burn Unit 2; Phase 3 - Burn Unit 1, Burn Unit 2, Burn Unit 3, Burn Unit 4, Burn Unit 5. Prescriptions for each burn unit are presented below: Fire lines and/or easements must be in place prior to burning all units.

Prescription Phase 1, Unit 1 – 279 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	Northwest	North
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method – Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road on north boundary	

Prescription Phase 1, Unit 2 – 363 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	Northwest	North
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method – Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road north of unit 1 and Phase 2	

Prescription Phase 1, Unit 3 – 695 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	Southwest	South
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method – Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road north of unit 1 and Phase 2	

Prescription Phase 2, Unit 1 – 281 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	NE to E	Northerly
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method – Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road north of unit 1	

Prescription Phase 2, Unit 2 – 643 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	Northeast	North
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method – Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road north of unit 1	

Prescription Phase 3, Unit 1 – 96 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	North to East	Northerly
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method – Hand Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield fish camp north of unit, Steelfield road east of unit.	

Prescription Phase 3, Unit 2 – 194 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	East to SE	E -SE
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method – Aerial Ignition	Backing	Strip Head
Smoke Management Concerns Note Cemetery in NE corner	Steelfield fish camp north of unit, Steelfield road east of unit.	

Prescription Phase 3, Unit 3 – 184 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	East to SE	E -SE
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method – Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Steelfield road east of unit, Bunker road south of unit.	

Prescription Phase 3, Unit 4 – 145 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	W - NW	W - NW
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method – Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Bunker road north of unit.	

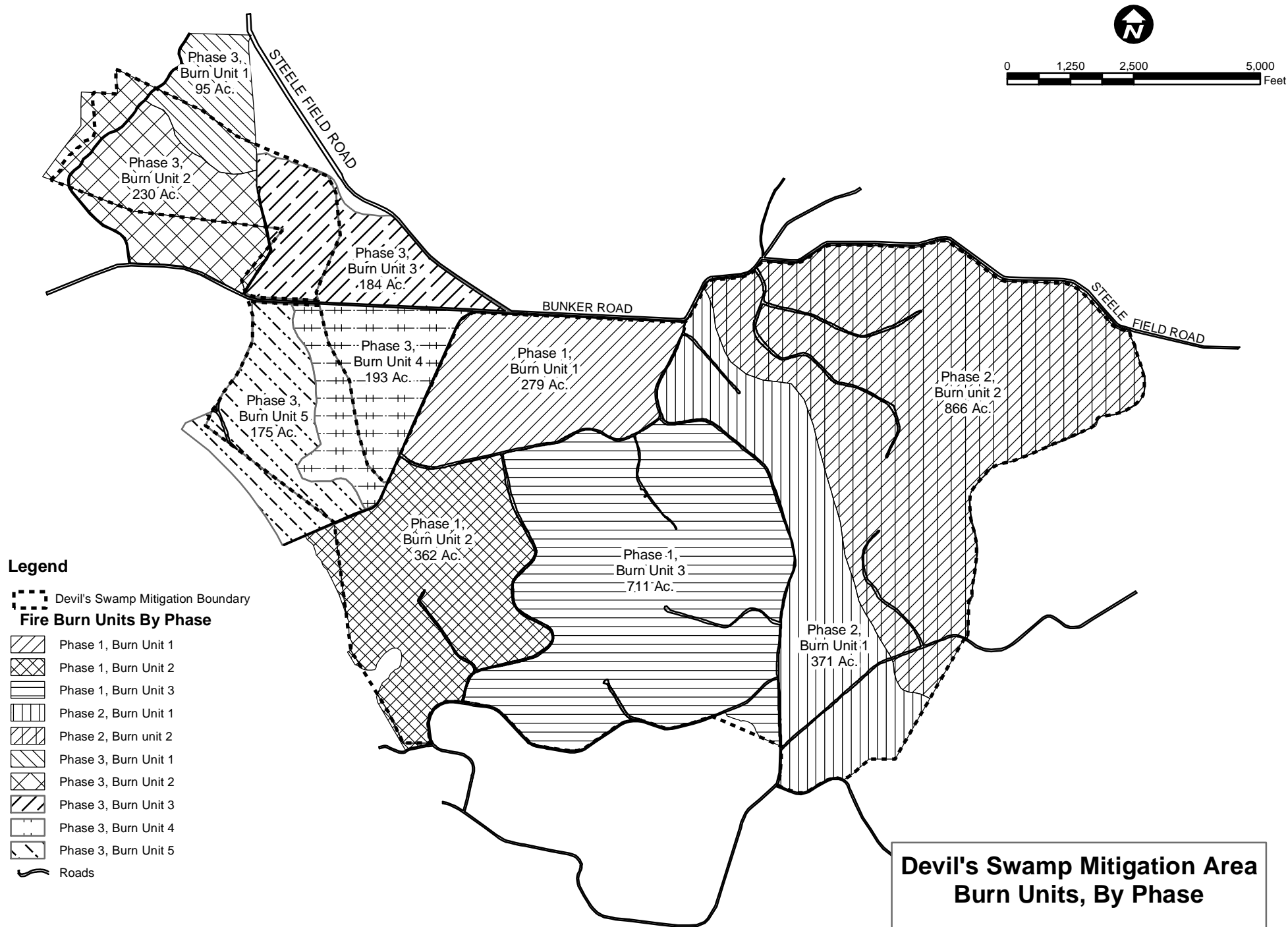
Prescription Phase 3, Unit 5 – 174 acres

Parameter	Low	High
Temperature	55°	90°
Relative Humidity	40°	80°
Wind Direction	W - SW	W - SW
Wind Speed (20' forecast)	5 mph	15 mph
Transport wind	10 mph	NA
Mixing Height	1800	NA
Dispersion Index (Day)	35	70
Burn method – Aerial Ignition	Backing	Strip Head
Smoke Management Concerns	Bunker road north and east of unit.	

Smoke management screening

This prescription has passed smoke screening provided wind prescriptions for each burn unit are employed. Care must be taken to avoid smoking Steelfield and Bunker roads Based on fuel type and burn unit area (3,254 -acres) a smoke sensitive radius of 3-miles is warranted. The Steelfield fish camp and the town of Bunker lies within the smoke sensitive radius. Prescriptions for the burn units are sensitive to this feature.

Note: Burn objectives can be accomplished only under prescribed wind direction for each unit. Smoke screening can be cleared under prescribed winds only, which may reduce visibility on Steelfield and Bunker roads. The timing of the burn is critical to smoke management AND ecological objectives: both will be the over-riding parameters for firing the units.



**Devil's Swamp Mitigation Area
Burn Units, By Phase**

Figure 1

ATTACHMENT B-3 – SECURITY PLAN

The Devil's Swamp Mitigation Bank is located in a rural portion of Bay and Walton Counties. As such, the site has limited exposure to the general population. The site is surrounded by private property with access restricted to two distinct, narrow (<100') corridors .

Gates

All entrance roads will be gated to control access (Figure 1). Gates will be constructed of 4-inch steel channel, painted blaze orange, and equipped with reflective tape. Gates will be locked and access permitted for St. Joe staff and their contractors, agency representatives, and hunting lease members and their guests only. Security housing around locks will be used to reduce the threat of illegal entry into the area.

Gates will be monitored bi-weekly by hunt club members. Monitoring will be a condition of the hunting lease agreement. Hunt club members are required to contact St. Joe staff (850-234-2204) within 24 hours of discovering a breach in gate security. Security gate damage will be repaired immediately.

Signs

The area boundary will be adequately posted with the sign shown as Figure 2. Signs will be posted at each entry point. All designated roads will be posted with signs. Hunt clubs are responsible for placement of road signs. The condition of entry and road signs will be evaluated during bi-weekly security inspections by hunt club members. The inspection and evaluation of signs will be a condition of the hunting lease agreement. The same reporting protocol for gates also will apply for sign security checks.

No trespassing signs also will be posted around the 750' perimeter of all active eagle nests.

Additional

All unauthorized persons, signs of trespassing, and/or signs of illegal activities or disturbances (e.g., dumping, off-road driving, disturbance of restoration areas, yahooing) observed by hunt club members within the mitigation bank must be reported to St. Joe staff (850-234-2204) within 24 hours of discovery.

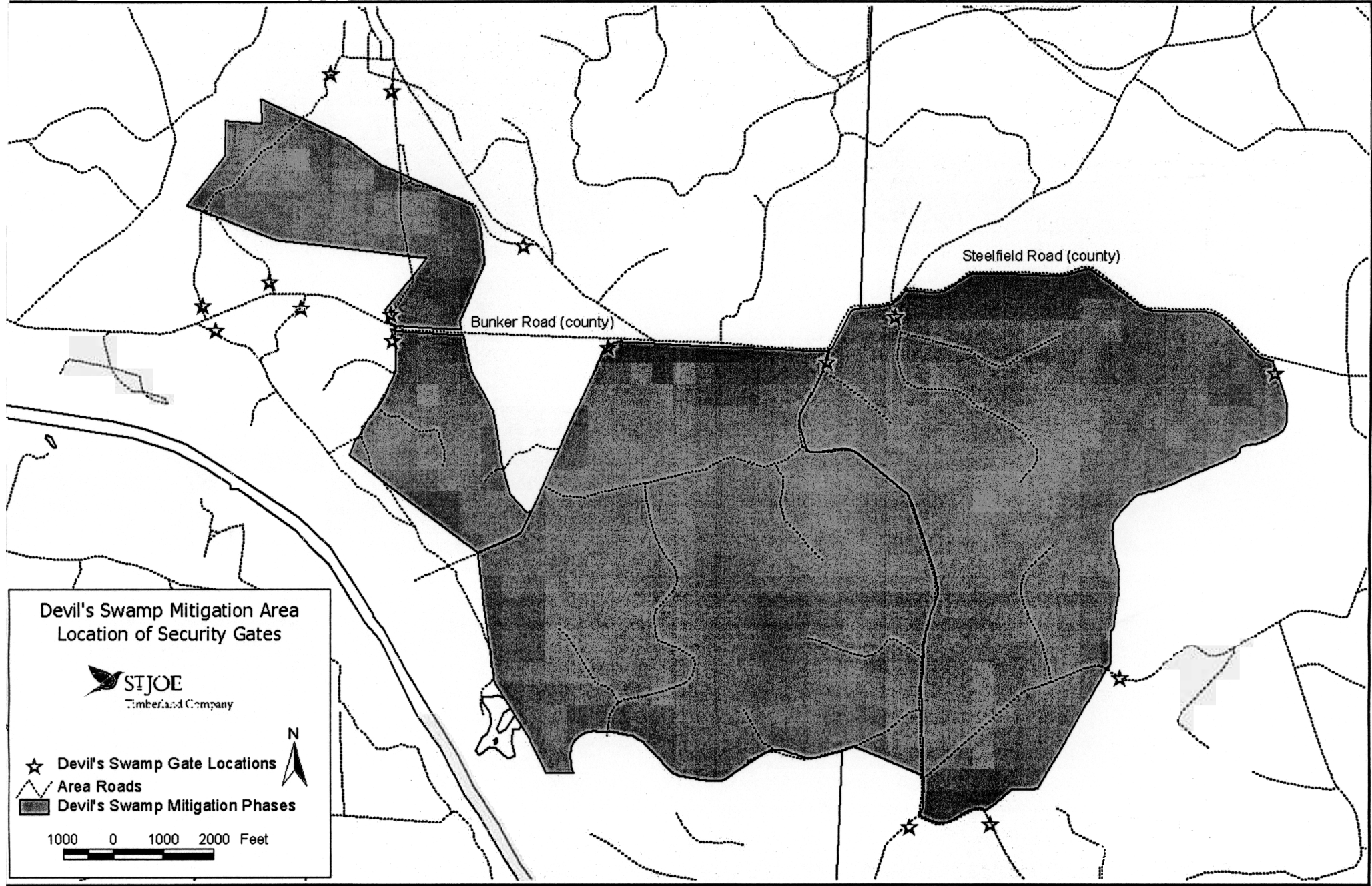


Figure 2. Example of sign to be used to post boundary of Devil's Swamp Mitigation Bank.



ATTACHMENT B-4 – WRAP ANALYSIS

The ecological function and estimated environmental lift associated with the proposed restoration on the Devil's Swamp Mitigation Bank (DSMB) property was assessed from spring to winter 2003. This assessment included a site visit followed by several in-office sessions. The October 1998 operational draft of the Wetland Rapid Assessment Procedure (WRAP), as implemented within the RGP and EMA and at the proposed Panama City Airport site, was used to determine the functional value of wetlands at the bank. The "lift" associated with each type of ecological change was then calculated and is displayed below. The credits from that assessment were modified by the Mitigation Bank Site Suitability Index and adjusted for time lag and risk.

WRAP Analysis

The interagency Technical Team met numerous times and agreed on the following scoring scenario, which is further described below:

Master Credit Table: Expected Lift by Polygon Category:

Existing condition	Post restoration condition	Acres	Existing conditions score	With mitigation score	Scoring delta (Lift)	Mitigation Units (credits)
Bedded Pine Plantation	Hydric pine flatwoods	780.80	0.65	0.96	0.31	242.05
Bedded Pine Plantation	Wet prairie/Savannah	295.20	0.65	0.96	0.31	91.51
Bedded Pine Plantation	Cypress Swamp	18.70	0.65	0.96	0.31	5.80
Bedded Pine Plantation	Mixed forested wetland	153.40	0.65	0.96	0.31	47.55
Unplanted wetlands - Titi	Hydric pine flatwoods	48.20	0.75	0.97	0.22	10.60
Unplanted wetlands - Titi	Wet prairie/Savannah	79.40	0.75	0.97	0.22	17.47
Unplanted wetlands - Titi	Cypress Swamp	2.30	0.75	0.97	0.22	0.51
Unplanted wetlands - Titi	Mixed forested wetland	583.60	0.75	0.97	0.22	128.39
Unplanted wetlands-other	Hydric pine flatwoods	9.10	0.92	0.99	0.07	0.64
Unplanted wetlands-other	Wet prairie/Savannah	17.10	0.92	0.99	0.07	1.20
Unplanted wetlands-other	Cypress Swamp	53.40	0.92	0.99	0.07	3.74
Unplanted wetlands-other	Mixed forested wetland	410.00	0.92	0.99	0.07	28.70
Non-bedded pine plantation	Upland pines	545.60	n/a	n/a	0.00	0.00
Roads, waterbodies	Roads, waterbodies	52.40	0	0	0.00	0.00
Total		3,049.20				578.10

Existing conditions scores.

Existing condition scores for pine plantation were 0.65, the score assigned to "low quality" wetlands in the RGP/EMA.

The scoring for titi wetlands was scored at 0.75 based on the scoring done for “high quality”, but somewhat degraded, wetlands under the RGP/EMA process.

Existing condition scores for unplanted wetlands-other was scored at 0.92 based on the scoring done for “high quality” wetlands under the RGP/EMA process.

The areas labeled upland pine plantation were found to vary within the site as to whether they could be determined to be jurisdictional and therefore scored as wetland or upland. Since these areas were originally bedded, and since the mitigation plan is expected to result in certain of these areas being hydric, the agencies and Sponsor agreed to score them as if they were “low quality” wetlands, as defined by the RGP/EMA at a 0.65. These are described as “bedded Pine Plantation” in the master credit table. After considerable discussion, polygons of upland pine plantation that are expected to remain in an upland condition after restoration were not assigned any lift.

Proposed conditions scores.

Proposed conditions were based on the “high quality” wetland scores developed for the RGP/EMA and scoring developed for the proposed Panama City Airport mitigation. Restored pine plantation areas are expected to achieve an ultimate score of 0.96, while existing unplanted wetlands are expected to achieve a score of 0.97 or 0.99 depending on whether they are currently titi or forested systems, respectively.

Mitigation Bank Siting Index

The Mitigation Bank Siting Index (MBSI) was developed by the interagency team that developed the “Green Book.” It is intended to measure the extent to which a mitigation bank site “fits” into its region and the degree to which it makes a permanent contribution to the regional ecology. The scoring resulted in a proposed value of 1.067 for BPMB (Attachment B-5) and is discussed below.

ESTABLISHED WATERSHED ISSUES: The mitigation bank will result in identifiable ecological benefits to established watershed issues recognized to be critical to the watershed of the Bank. The extensive NFWFMD holdings immediately adjacent to the site on its northwest boundary are in permanent conservation status and serve to preserve the functional quality of the Choctawhatchee Bay system, a SWIM waterbody. The NFWFMD lands represent thousands of acres of preservation and substantial ecological and hydrological restoration areas that will be further enhanced by the addition of this 3,000+ ac. restoration site. Score a “3”.

LANDSCAPE MOSAIC COMPATIBILITY: The ecological communities present at the mitigation bank site will continue to blend with silvicultural lands for the foreseeable future. Score a “0”.

THREATENED AND ENDANGERED SPECIES: Establishment of the mitigation bank improves the status of federal and/or state listed threatened or endangered species. After implementation the bank should foster the increase in populations of the listed plant species known to occur on the site. It should also foster an increase in populations of flatwoods salamander, gopher tortoises, red-cockaded woodpecker, Florida pine snake, and some state-listed plant species. Score a “3”.

EXPANSION OF SCARCE HABITATS: The landscape contains ecological features considered to be unusual, unique or rare in the region and is of sufficient size. There is a paucity of coastal palustrine marsh and cypress flats in the region. The restoration of these systems will make a meaningful contribution to the long term ecological health of the region. Score a “3”.

ADJACENT LAND USES: The Bank will result in identifiable ecological benefits to adjacent lands or waters of regional importance such as State/National Park, State/National Forest, SWIM, OFW, AP, refuges and lands managed for conservation. West Bay is a SWIM water body. The adjacent Breakfast Point Peninsula CU and the bank site are identified as part of the West Bay Conservation Area. Score a “3”.

STRATEGIC HABITAT CONSERVATION AREA (SHCA): The Bank site is within or will result in identifiable benefits to the GAP analysis designating lands essential to providing the land base necessary to sustain populations in the future. There are no SHCA's identified for this site. Because SHCA's were based on existing data, data that may have resulted in designating this site within certain SHCA's did not then exist. Score a "0".

Time lag and risk

Background

To assess time lag and risk at DSMB, consideration was given to the fact that many of the credits assessed at the site were derived from herbaceous or open, prairie-like flatwoods communities where the tree cover is currently in place, but will be thinned to appropriate levels and that interim success criteria for these communities are quite specific. However consideration was also given to the portion of the site proposed for swamp communities that will require additional time to achieve maturity. For the assessment below, the time lag and risk factors are assigned to the "real time" mitigation value associated with each individual credit release and the activity and criteria for that release.

- At the time the conservation easement and financial assurances are in place, those credits have *de minimus* time and risk.
- At the time logging and associated activities are conducted, a great deal of the mitigation is achieved, but a few years are needed for recovery from these impacts and there is a low risk that this activity will lead to unanticipated, poorer outcomes.
- At the time burn credits are released, more actual mitigation is achieved, and little time is needed for recovery, but there is a low risk that this activity will lead to unanticipated, poorer outcomes or impacts.
- The hydrologic improvements are minor compared to the other outcomes and activities and are available at completion of construction without time lag or risk.
- By the time year interim performance standards are met, mitigation has proceeded to establish appropriate ground cover so there is assurance that the site is heading the right way, but there is still some limited time lag and risk associated with these credits.
- Final phase and final bank success credit releases are adjusted to account for the remaining future community and tree maturation and low risk.

Credit Release Activity	Percent of credits	Time Lag	Risk	Time Lag x Risk x percent credits
Record Conservation Easement, Financial Assurances	10.00%	1.00	1.00	.1
Logging, Selective Clearing, Brush Reduction, Exotic Control	20.00%	0.97	0.85	.165
Prescribed Burn	15.00%	1.00	0.85	0.127
Hydrologic Improvements	5.00%	1.00	1.00	.05
Performance Standards, Year 1 attained	10.00%	0.88	0.95	0.084
Performance Standards, Year 2 attained	10.00%	0.88	0.95	0.084
Performance Standards, Year 3 attained	10.00%	0.88	0.95	0.084
Performance Standards, Phase success attained	10.00%	0.80	0.95	0.076
Performance Standards, Final attained	10.00%	0.88	0.95	0.084
Total	100.00%			0.854

Note: time lag used the 62-345 F.A.C. (UMAM) tables, risk is basically percentage fractions at 0.05 increments

This table shows that, overall, the total adjustment to the potential credits at BPMB is effectively a reduction of 14.6%; therefore, for simplicity, all credits will be adjusted by this factor and will be considered fully adjusted for timelag and risk.

Total Potential Credits

Therefore, the total potential number of credits available at DPMB is:

Factor	Credits
WRAP scoring	578.10
MBSI multiplier of 1.067	616.83
Time Lag & Risk adjustment of .854	526.77
Total Potential Credits	526.77

ATTACHMENT B-5 – SITE SUITABILITY INDEX

PARAMETERS	SCORE
ESTABLISHED WATERSHED ISSUES: The mitigation bank will result in identifiable ecological benefits to established watershed issues recognized to be critical to the watershed of the Bank. Yes.....3 No.....0	3
LANDSCAPE MOSAIC COMPATIBILITY: The ecological communities present at the mitigation bank site blend seamlessly with the adjacent native communities and that relationship is expected to remain in perpetuity. Site will blend seamlessly on 95-100% of its perimeter.....3 Site will blend seamlessly on 67-95% of its perimeter.....2 Site will blend seamlessly on 25-66% of its perimeter.....1 Site will blend seamlessly on <25% of its perimeter.....0	0
THREATENED AND ENDANGERED SPECIES: Establishment of the mitigation bank improves the status of federal and/or state listed threatened or endangered species. Increases population of one or more listed species.....3 Meets identified task within a recovery plan or provides protection to candidate species.....2 Attracts species to the site.....1 Maintains the status-quo.....0	3
EXPANSION OF SCARCE HABITATS: The landscape contains ecological features considered to be unusual, unique or rare in the region and is of sufficient size. Yes.....3 No.....0	3
ADJACENT LAND USES: The Bank will result in identifiable ecological benefits to adjacent lands or waters of regional importance such as State/National Park, State/National Forest, SWIM, OFW, AP, refuges and lands managed for conservation. Yes.....3 No.....0	3
STRATEGIC HABITAT CONSERVATION AREA (SHCA): The Bank site is within or will result in identifiable benefits to the GAP analysis designating lands essential to providing the land base necessary to sustain populations in the future. Yes.....3 No.....0	0
TOTAL	12
MBSI = (TOTAL / MAXIMUM POSSIBLE) (0.1) + 1.0	1.067
WRAP Credits X MBSI =	616.083

ATTACHMENT B-6 – LEDGERS

Devil's Swamp Mitigation Bank Permit Number 0227475-001 February 26, 2004

Total Potential Credits = 526.77

Impact Permit # (or Release Mod)	Project Name	Issue Date	Mod Date	Issuing Agency	Credits Available	Credits Released	Credits Withdrawn	Balance
#####	xxx			DEP	0	0		0

Assumptions:

- Low quality wetlands will be offset using a 0.65:1 ratio in the BPMB.
- High quality wetlands will be offset using a 0.92:1 ratio in the BPMB.
- On-site or within-conservation unit mitigation is not included here because it is planned on a per-project basis.

Devil's Swamp Mitigation Bank Permit Number SAJ 2004-1864 March XX, 2004

Total Potential Credits = 526.77

Impact Permit # (or Release Mod)	Project Name	Issue Date	Mod Date	Issuing Agency	Credits Available	Credits Released	Credits Withdrawn	Balance
#####	xxx			COE	0	0		0

Assumptions:

- Low quality wetlands will be offset using a 0.65:1 ratio in the BPMB.
- High quality wetlands will be offset using a 0.92:1 ratio in the BPMB.
- On-site or within-conservation unit mitigation is not included here because it is planned on a per-project basis.

ATTACHMENT B-7 – DESIRABLE SPECIES LIST

Animals:

Non-Comprehensive List of Potential Animal Species that Could Occur in the Devil's Swamp Mitigation Bank

Common Name	Scientific Name	Federal Status*	State Status*
Acadian flycatcher	<i>Empidonax virescens</i>		
American alligator	<i>Alligator mississippiensis</i>	T(S/A)	LS
American woodcock	<i>Scolopax minor</i>		
Anhinga	<i>Anhinga anhinga</i>		
Armadillo	<i>Dasypus novemcinctus</i>		
Bachman's sparrow	<i>Aimophila aestivalis</i>		
Bald eagle	<i>Haliaeetus leucocephalus</i>	LT	LT
Barred owl	<i>Strix varia</i>		
Belted kingfisher	<i>Ceryle alcion</i>		
Blue jay	<i>Cyanocitta cristata</i>		
Bluebird	<i>Sialia sialis</i>		
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>		
Bluenose shiner	<i>Pteronotropis welaka</i>	N	LS
Blue-tailed mole skink	<i>Eumeces egregius lividus</i>		
Bobwhite quail	<i>Colinus virginianus</i>		
Box turtle	<i>Terrapene carolina</i>		
Bronze frog	<i>Rana clamitans</i>		
Brownheaded nuthatch	<i>Sitta pusilla</i>		
Carolina chickadee	<i>Poecile carolinensis</i>		
Carolina wren	<i>Thryothorus ludovicianus</i>		
Cedar waxwing	<i>Bombycilla cedrorum</i>		
Chorus frog	<i>Pseudacris nigrita</i>		
Chuck-will's widow	<i>Capromulgus carolinensis</i>		
Common grackle	<i>Quiscalus quiscula</i>		
Common yellowthroat warbler	<i>Geothlypis trichas</i>		
Cope's gray tree frog	<i>Hyla chrysoscelis</i>		
Corn snake	<i>Elaphe guttata</i>		
Cotton mouse	<i>Peromyscus gossypinus</i>		
Cotton rat	<i>Sigmodon hispidus</i>		
Cottonmouth	<i>Agkistrodon piscivorus</i>		
Crayfish	<i>Procambarus spp.</i>		
Crested flycatcher	<i>Myiarchus crinitus</i>		
Cricket frog	<i>Acris gryllus</i>		
Downy woodpecker	<i>Picoides pubescens</i>		
Eastern chipmunk	<i>Tamias striatus striatus</i>	N	LS
Eastern coachwhip	<i>Masticophis flagellum flagellum</i>		
Eastern cottontail rabbit	<i>Sylvilagus floridanus</i>		
Eastern hognose snake	<i>Heterodon platirhinos</i>		
Eastern indigo snake	<i>Drymarchon corais couperi</i>	LT	LT
Eastern kingbird	<i>Tyrannus tyrannus</i>		
Eastern mockingbird	<i>Mimus polyglottos</i>		
Eastern phoebe	<i>Sayornis phoebe</i>		
Eastern towhee	<i>Pipilo erythrophthalmus</i>		

Non-Comprehensive List of Potential Animal Species that Could Occur in the Devil's Swamp Mitigation Bank

Common Name	Scientific Name	Federal Status*	State Status*
Flatwoods Salamander	<i>Ambystoma cingulatum</i>	LT	LS
Flicker	<i>Colaptes auratus</i>		
Florida black bear	<i>Ursus americanus floridanus</i>	ce	LT**
Florida bog frog	<i>Rana okaloosae</i>	N	LS
Florida burrowing owl	<i>Speotyto cunicularia floridana</i>	N	LS
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	N	LS
Florida ribbon snake	<i>Thamnophis sauritus</i>		
Florida sandhill crane	<i>Grus canadensis pratensis</i>	N	LT
Fox squirrel	<i>Sciurus niger</i>		
Gopher frog	<i>Rana capito</i>	N	LS
Gopher tortoise	<i>Gopherus polyphemus</i>	N	LS
Gray catbird	<i>Dumetella carolinensis</i>		
Gray fox	<i>Urocyon cinereoargenteus</i>		
Great blue heron	<i>Ardea herodias</i>		
Great horned owl	<i>Bubo virginianus</i>		
Green anole	<i>Anolis carolinensis</i>		
Green tree frog	<i>Hyla cinerea</i>		
Ground dove	<i>Columbina passerina</i>		
Hooded warbler	<i>Wilsonia citrina</i>		
House wren	<i>Troglodytes aedon</i>		
Island glass lizard	<i>Ophisaurus compressus</i>		
Killdeer	<i>Charadrius vociferous</i>		
Leopard frogs	<i>Rana sphenoccephala</i>		
Limpkin	<i>Aramus guarauna</i>	N	LS
Little blue heron	<i>Egretta caerulea</i>	N	LS
Little grass frog	<i>Hyla ocularis</i>		
Loggerhead shrike	<i>Lanius ludovicianus</i>		
Marsh rabbit	<i>Sylvilagus palustris</i>		
Meadowlark	<i>Sturnella magna</i>		
Mink	<i>Mustela vison</i>		
Mourning dove	<i>Zenaidura macroura</i>		
Nighthawk	<i>Chordeiles minor</i>		
Northern cardinal	<i>Cardinalis cardinalis</i>		
Northern scarlet snake	<i>Cemophora coccinea copei</i>		
Oak toad	<i>Bufo quercicus</i>		
Ornate chorus frog	<i>Pseudacris ornata</i>		
Osprey	<i>Pandion haliaetus</i>	N	LS**
Palm warbler	<i>Dendroica palmarum</i>		
Panama City crayfish	<i>Procambarus econfinae</i>	N	LS
Parula Warbler	<i>Parula americana</i>		
Pig frog	<i>Rana grylio</i>		
Pigmy rattlesnake	<i>Sistrurus miliarius</i>		
Pileated woodpecker	<i>Dryocopus pileatus</i>		
Pine barrens treefrog	<i>Hyla andersonii</i>	N	LS
Pine warbler	<i>Dendroica pinus</i>		
Pinewoods tree frog	<i>Hyla femoralis</i>		

Non-Comprehensive List of Potential Animal Species that Could Occur in the Devil's Swamp Mitigation Bank

Common Name	Scientific Name	Federal Status*	State Status*
Prothonotary warbler	<i>Prothonotaria citrea</i>		
Raccoon	<i>Procyon lotor</i>		
Red bellied woodpecker	<i>Melanerpes carolinus</i>		
Red headed woodpecker	<i>Melanerpes erythrocephalus</i>		
Red-cockaded woodpecker	<i>Picoides borealis</i>	LE	LT
Red-eyed vireo	<i>Vireo olivaceus</i>		
Red-shouldered hawk	<i>Buteo lineatus</i>		
Red-tailed hawk	<i>Buteo jamaicensis</i>		
River otter	<i>Lutra canadensis</i>		
Robin	<i>Turdus migratorius</i>		
Rough green snake	<i>Opheodrys aestivus</i>		
Scarlet king snake	<i>Lampropeltis triangulum elapsoides</i>		
Screech owl	<i>Otus asio</i>		
Short-tailed snake	<i>Stilosoma extenuatum</i>		
Snowy egret	<i>Egretta thula</i>	N	LS
Southeastern American kestrel	<i>Falco sparverius paulus</i>	N	LT
Southeastern pocket gopher	<i>Geomys floridana</i>		
Southern fence lizard	<i>Sceloporus unulatus</i>		
Southern hognose snake	<i>Heterodon simus</i>		
Southern leopard frog	<i>Rana utricularia</i>		
Southern spring peeper	<i>Hyla crucifer</i>		
Spotted skunk	<i>Spilogale putorius</i>		
Summer tanager	<i>Piranga rubra</i>		
Swallowtailed kite	<i>Elanoides forficatus</i>		
Tufted titmouse	<i>Parus bicolor</i>		
Turkey	<i>Meleagris gallopavo</i>		
White ibis	<i>Eudocimus albus</i>	N	LS
White-breasted nuthatch	<i>Sitta carolinensis</i>		
White-eyed vireo	<i>Vireo griseus</i>		
White-tailed deer	<i>Odocoileus virginianus</i>		
Wood duck	<i>Aix sponsa</i>		
Wood stork	<i>Mycteria americana</i>	LE	LE
Yellow-billed cuckoo	<i>Coccyzus americanus</i>		
Yellow-breasted chat	<i>Icteria virens</i>		
Yellow-rumped warbler	<i>Dendroica coronata</i>		

Key:

* Federal and state listing status only provided for species that are listed (in bold); all others are non-listed species.

Federal Legal Status (refer only to Florida populations; federal status may differ elsewhere):

T(S/A) = Threatened due to a similarity of appearance (see above).

N = Not currently listed, nor currently being considered for listing as Endangered or Threatened.

State Legal Status/Animals:

LE = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.

LT = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.

LS = Species of Special Concern is a species, subspecies, or isolated population which is facing a moderate risk of extinction in the future.

Plants:

Non-Comprehensive List of Potential Plant Species that Could Occur in the Devil's Swamp Mitigation Bank

Scientific Name	Common Name	Community Types*					Federal Status	State Status
		UP	MHP	MFW	CS	SAV		
<i>Acer rubrum</i>	Red maple		X	X	X			
<i>Achillea millefolium</i>	Milk pea	X						
<i>Agalinis</i> spp.	False foxglove	X						
<i>Aletris aurea</i>	Yellow colic-root		X	X				
<i>Aletris lutea</i>	Yellow colic-root		X	X		X		
<i>Andropogon arctatus</i>	Pine-woods bluestem		X				N	LT
<i>Andropogon</i> spp.	Bluestem	X	X			X		
<i>Aristida palustris</i>	Longleaf threeawn				X			
<i>Aristida purpurescens</i>	Arrowfeather		X			X		
<i>Aristida rhizophora</i>	Florida threeawn					X		
<i>Aristida simpliciflora</i>	Southern three-awned grass		X				N	LE
<i>Aristida spiciformis</i>	Bottlebrush threeawn	X						
<i>Aristida stricta</i>	Wiregrass	X	X			X		
<i>Aristolochia tomentosa</i>	Pipevine			X	X		N	LE
<i>Arnoglossum diversifolium</i>	Variable-leaved Indian-plantain			X	X		N	LT
<i>Aronia arbutifolia</i>	Red chokeberry		X	X	X	X		
<i>Arundinaria gigantea</i>	Cane		X	X	X	X		
<i>Asclepias humistrata</i>	Sandhill milkweed	X						
<i>Asclepias</i> spp.	Milkweeds	X	X			X		
<i>Asclepias viridula</i>	Southern milkweed		X			X	N	LT
<i>Aster spinulosus</i>	Pine-woods aster		X			X	N	LE
<i>Aster</i> spp.	Asters	X	X			X		
<i>Bacopa</i> spp.	water hyssop			X	X			
<i>Balduina</i> spp.	Honeycomb heads		X			X		
<i>Baptisia lanceolata</i>	Wild indigo	X	X					
<i>Berlandiera pumila</i>	Greeneyes	X						
<i>Calamintha dentata</i>	Toothed savory		X				N	LT
<i>Calamovilfa curtissii</i>	Curtiss' sandgrass		X	X	X	X	N	LT
<i>Carex</i> spp.	Sedges	X	X	X	X	X		
<i>Carphephorus</i> spp.	Deer tongue	X	X			X		
<i>Cassia fasciculata</i>	Partridge pea	X						
<i>Cephalanthus occidentalis</i>	Common buttonbrush			X	X			
<i>Chaptalia tomentosa</i>	Sun-bonnets		X			X		
<i>Chasmanthium</i> spp.	Spikegrasses		X	X	X			
<i>Chrysoma pauciflosculosa</i>	Woody goldenrod	X						
<i>Chrysopsis</i> spp.	Golden-asters	X						
<i>Cladina</i> spp.	Deer mosses	X	X					
<i>Cladium jamaicense</i>	Sawgrass				X			
<i>Cladonia</i> spp.	Deer mosses	X	X					
<i>Cleistes divaricata</i>	Spreading Pogonia		X	X	X	X	N	LT
<i>Clethra alnifolia</i>	Sweet pepperbush		X	X	X			
<i>Cliftonia monophylla</i>	Black titi		X	X	X			
<i>Clitoria mariana</i>	Butterfly pea	X						
<i>Conradina canescens</i>	False rosemary	X	X					
<i>Coreopsis</i> spp.	Tickseed		X			X		

Non-Comprehensive List of Potential Plant Species that Could Occur in the Devil's Swamp Mitigation Bank

Scientific Name	Common Name	Community Types*					Federal Status	State Status
		UP	MHP	MFW	CS	SAV		
<i>Crataegus phaenopyrum</i>	Washington thorn			X	X		N	LE
<i>Crotalaria rotundifolia</i>	Rabbit bells	X	X					
<i>Crotalaria spectabilis</i>	Showy Crotalaria	X	X					
<i>Croton argyranthemus</i>	Silver croton	X						
<i>Ctenium aromaticum</i>	toothache grass		X			X		
<i>Cyrilla racemiflora</i>	White titi		X	X	X			
<i>Desmodium incanum</i>	Creeping beggarweed		X			X		
<i>Desmodium strictum</i>	Pineland beggarweed	X						
<i>Dicanthelium spp.</i>	Panic grasses	X	X			X		
<i>Dichromena spp.</i>	White-topped sedges		X			X		
<i>Diospyros virginiana</i>	Persimmon	X						
<i>Drosera brevifolia</i>	Sundew		X	X	X	X		
<i>Drosera capillaris</i>	Sundew		X	X	X	X		
<i>Drosera filiformis</i>	Sundew		X	X	X	X		
<i>Drosera intermedia</i>	Sundew		X	X	X	X		
<i>Drosera tracyi</i>	Sundew		X	X	X	X		
<i>Eleocharis spp.</i>	Spikerushes		X	X	X	X		
<i>Elephantopus spp.</i>	Elephant's feet	X						
<i>Erigeron vernus</i>			X			X		
<i>Eriocaulon nigrobracteatum</i>	Dark-headed hatpins		X	X		X	N	LE
<i>Eriocaulon spp.</i>	Hatpins		X	X	X	X		
<i>Eriogonum tomentosum</i>	Wild buckwheat	X	X					
<i>Eryngium integrifolium</i>			X			X		
<i>Eupatorium leucolepis</i>			X			X		
<i>Eupatorium spp.</i>	Dog fennel	X	X		X	X		
<i>Euphorbia inundata</i>	Spurge	X						
<i>Euphorbia telephioides</i>	Telephus spurge		X				LT	LE
<i>Fuirena sp.</i>	Umbrellagrass		X	X		X		
<i>Gaylussacia dumosa</i>	Dwarf huckleberry	X	X					
<i>Gaylussacia frondosa</i>	Dangleberry	X	X					
<i>Gaylussacia mosieri</i>	Mosier's huckleberry		X	X	X			
<i>Gelsemium spp.</i>	yellow jessamine	X						
<i>Gentiana pennelliana</i>	Wiregrass gentian		X			X	N	LE
<i>Gordonia lasianthus</i>	Loblolly bay			X	X			
<i>Helenium spp.</i>	Sneezeweed		X			X		
<i>Helianthus spp.</i>	Sunflowers		X			X		
<i>Heterotheca graminifolia</i>	Grassleaf goldenaster	X						
<i>Hymenocallis henryae</i>	Panhandle spiderlily		X			X	N	LE
<i>Hypericum brachyphyllum</i>	St. John's wort			X	X	X		
<i>Hypericum chapmanii</i>	Sponge bark hypericum			X	X	X		
<i>Hypericum cistifolium</i>	St. John's wort		X					
<i>Hypericum crux-andreae</i>	St. Peter's-wort		X		X			
<i>Hypericum exile</i>	St. Johns wort		X			X		
<i>Hypericum fasciculatum</i>	Sandweed		X	X	X	X		
<i>Hypericum galioides</i>	St. John's wort		X	X	X	X		
<i>Hypericum hypericoides</i>	St. Andrew's cross		X		X	X		

Non-Comprehensive List of Potential Plant Species that Could Occur in the Devil's Swamp Mitigation Bank

Scientific Name	Common Name	Community Types*					Federal Status	State Status
		UP	MHP	MFW	CS	SAV		
<i>Ilex glabra</i>	Gallberry	X	X	X	X	X		
<i>Ilex cassine</i>	Dahoon holly			X	X			
<i>Ilex coriacea</i>	Sweet gallberry		X	X	X			
<i>Ilex myrtifolia</i>	Myrtle-leaved holly		X	X	X			
<i>Ilex vomitoria</i>	Yaupon	X	X					
<i>Itea virginica</i>	Virginia willow		X	X	X			
<i>Juncus spp.</i>	Rushes		X	X	X	X		
<i>Justicia crassifolia</i>	Thickleaf waterwillow		X			X	N	LE
<i>Kalmia hirsuta</i>	Hairy wicky	X	X					
<i>Kalmia latifolia</i>	Mountain laurel			X			N	LT
<i>Lachnanthes americana</i>	redroot		X	X	X	X		
<i>Lachnocaulon digynum</i>	Pineland bogbutton or bog button		X			X	N	LT
<i>Lachnocaulon spp.</i>	Bogbottoms		X	X	X	X		
<i>Lespedeza capitata</i>	Bush clover	X						
<i>Leucothoe spp.</i>	dog-hobble/hurrah bush			X	X			
<i>Liatris provincialis</i>	Godfrey's gayfeather	X					N	LE
<i>Liatris spp.</i>	Blazing stars	X	X					
<i>Licania michauxii</i>	Gopher apple	X						
<i>Lilium catesbaei</i>	Catesby lily		X			X	N	LT
<i>Lilium iridollae</i>	Panhandle lily			X	X		N	LE
<i>Lophiola caroliniana</i>	Golden crest		X	X	X	X		
<i>Ludwigia spp.</i>	Primrose				X	X		
<i>Lupinus westianus</i>	Gulf Coast lupine	X					N	LT
<i>Lycopodium spp.</i>	Clubmosses		X	X	X	X		
<i>Lyonia ferruginea</i>	Rusty staggerbush		X					
<i>Lyonia lucida</i>	Fetterbush		X	X	X	X		
<i>Lythrum curtissii</i>	Curtiss' loosestrife		X	X	X		N	LE
<i>Macbridea alba</i>	White birds-in-a-nest		X			X	LT	LE
<i>Macranthera flammea</i>	Hummingbird flower			X	X		N	LE
<i>Magnolia grandiflora</i>	Southern magnolia	X	X					
<i>Magnolia virginiana</i>	Sweet bay		X	X	X	X		
<i>Mitchella repens</i>	Partridge berry	X						
<i>Muhlenbergia capillaris</i>	Gulf muhly		X		X	X		
<i>Muhlenbergia spp.</i>	muhly grass		X			X		
<i>Myrica cerifera</i>	Wax myrtle		X			X		
<i>Myrica heterophylla</i>	Bayberry		X	X				
<i>Myrica inodora</i>	Odorless wax myrtle		X	X	X	X		
<i>Nymphaea spp.</i>	Water lilies				X			
<i>Nymphoides spp.</i>	Floating heart				X			
<i>Nyssa aquatica</i>	Water tupelo			X	X			
<i>Nyssa sylvatica var. biflora</i>	Swamp tupelo			X	X			
<i>Opuntia humifusa</i>	Prickly pear cactus	X						
<i>Orontium aquaticum</i>	Golden club			X	X			
<i>Osmunda cinnamomea</i>	Cinnamon fern		X	X	X			
<i>Osmunda regalis</i>	Royal fern		X	X	X			

Non-Comprehensive List of Potential Plant Species that Could Occur in the Devil's Swamp Mitigation Bank

Scientific Name	Common Name	Community Types*					Federal Status	State Status
		UP	MHP	MFW	CS	SAV		
<i>Oxypolis filiformis</i>	Dropwort		X			X		
<i>Oxypolis greenmanii</i>	Giant water dropwort		X			X	N	LE
<i>Panicum abscissum</i>	Cutthroat grass		X			X	N	LE
<i>Panicum anceps rhizomatum</i>	Hairy Panicum	X						
<i>Panicum hemitomum</i>	maidencane		X	X	X	X		
<i>Panicum nudicaule</i>	Naked-stemmed panic grass	X	X				N	LT
<i>Panicum rigidulum</i>					X			
<i>Panicum verrucosum</i>	Warty Panicum					X		
<i>Panicum virgatum</i>		X	X		X			
<i>Peltandra spp.</i>	Arum				X	X		
<i>Persea palustris</i>	Swamp bay		X	X	X	X		
<i>Physostegia godfreyi</i>	Apalachicola dragonhead		X	X		X	N	LT
<i>Pieris phillyreifolia</i>	Vine wicky		X	X	X			
<i>Pinckneya bracteata</i>	Fever tree			X	X		N	LT
<i>Pinguicula ionantha</i>	Violet-flowered butterwort		X	X		X	LT	LE
<i>Pinguicula lutea</i>	Yellow butterwort		X	X		X	N	LT
<i>Pinguicula planifolia</i>	Chapman's butterwort		X	X		X	N	LT
<i>Pinguicula primuliflora</i>	Primrose-flowered butterwort		X	X		X	N	LE
<i>Pinus clausa</i>	Sand pine	X						
<i>Pinus elliottii</i>	Slash pine	X	X	X				
<i>Pinus palustris</i>	Longleaf pine	X	X			X		
<i>Pinus serotina</i>	Pond pine		X	X	X			
<i>Pityopsis spp.</i>	Golden aster	X	X					
<i>Platanthera ciliaris</i>	Yellowfringed orchid		X	X		X	N	LT
<i>Platanthera integra</i>	Yellow fringeless orchid		X	X		X	N	LE
<i>Platanthera nivea</i>	Snowy orchid		X	X		X	N	LT
<i>Pleea tenuifolia</i>	Rush-featherling		X	X		X		
<i>Pogonia ophioglossioides</i>	Rose Pogonia		X	X		X	N	LT
<i>Polygala spp.</i>	Milkworts	X	X			X		
<i>Pontederia spp.</i>	Pickerelweed			X	X			
<i>Proserpinaca spp.</i>	Mermaid Weed			X	X			
<i>Pteridium aquilinum</i>	Bracken fern	X	X					
<i>Quercus chapmanii</i>	Chapman's oak	X						
<i>Quercus incana</i>	Bluejack oak	X	X					
<i>Quercus laevis</i>	Turkey oak	X						
<i>Quercus minima</i>	Dwarf live oak	X	X					
<i>Quercus myrtifolia</i>	Myrtle-leaved oak	X						
<i>Quercus nigra</i>	Water oak		X	X				
<i>Quercus pumila</i>	Running oak	X	X					
<i>Quercus virginiana</i>	Live oak	X	X					
<i>Quercus virginiana</i> var. <i>geminata</i>	Sand live oak	X						
<i>Quercus margaretta</i>	Sand post oak	X						
<i>Rhexia parviflora</i>	Small-flowered meadowbeauty		X			X	N	LE
<i>Rhexia salicifolia</i>	Panhandle meadowbeauty	X	X				N	LT
<i>Rhexia spp.</i>	Meadowbeauties	X	X			X		
<i>Rhus copallina</i>	Winged sumac	X	X					

Non-Comprehensive List of Potential Plant Species that Could Occur in the Devil's Swamp Mitigation Bank

Scientific Name	Common Name	Community Types*					Federal Status	State Status
		UP	MHP	MFW	CS	SAV		
<i>Rhynchospora</i> spp.	Wiry beakrushes		X	X	X	X		
<i>Rhynchospora stenophylla</i>	Narrow-leaved beakrush		X	X	X	X	N	LT
<i>Rubus</i> spp.	Blackberries	X	X					
<i>Rudbeckia nitida</i>	St. John's Susan; shiny coneflower		X	X		X	N	LE
<i>Rudbeckia</i> spp.	black-eyed susan		X	X		X		
<i>Ruellia noctiflora</i>	Nightflowering wild petunia		X			X	N	LE
<i>Sabatia</i> spp.	marsh pinks		X			X		
<i>Sagittaria</i> spp.	Arrowheads			X	X			
<i>Sarracenia flava</i>	Yellow trumpets		X	X		X		
<i>Sarracenia leucophylla</i>	White-topped pitcherplant		X	X		X	N	LE
<i>Sarracenia psitticina</i>	Parrot pitcher plant		X	X		X		
<i>Sarracenia purpurea</i>	Purple pitcher plant		X	X		X		
<i>Sarracenia rubra</i>	Sweet pitcherplant		X	X		X	N	LT
<i>Saururus cernuus</i>	Lizard's tail			X	X			
<i>Schizachyrium scoparium</i>			X			X		
<i>Schrankia microphylla</i>	Sensitive brier	X						
<i>Scleria ciliata</i>	Nutrush		X					
<i>Scleria</i> spp.	Nutrushes		X		X	X		
<i>Scutellaria floridana</i>	Florida skullcap		X			X	LT	LE
<i>Serenoa repens</i>	Saw palmetto	X	X					
<i>Smilax</i> spp.	Green briars	X	X	X	X	X		
<i>Solidago</i> spp.	goldenrod	X	X			X		
<i>Sorghastrum macundus</i>	Lopsided indiagrass		X					
<i>Sorghastrum nutans</i>	Indiagrass	X	X					
<i>Sphagnum</i> spp.			X	X	X			
<i>Spiranthes laciniata</i>	Lace-lip ladies' tresses		X			X	N	LT
<i>Spiranthes vernalis</i>	Ladies tresses		X			X		
<i>Sporobolus curtissii</i>	Curtis dropseed	X						
<i>Sporobolus floridana</i>	Florida dropseed	X	X					
<i>Sporobolus junceus</i>	Pinewoods dropseed	X						
<i>Stachydeoma graveolens</i>	Mock pennyroyal	X	X				N	LE
<i>Stewartia malacodendron</i>	Silky camellia			X	X		N	LE
<i>Stillingia aquatica</i>	Corkwood		X	X	X	X		
<i>Stillingia sylvatica</i>	Queen's delight	X						
<i>Taxodium ascendens</i>	pond cypress			X	X	X		
<i>Taxodium distichum</i>	Bald cypress			X	X	X		
<i>Tephrosia mohrii</i>	Pineland hoary-pea			X	X		N	LT
<i>Thalictrum cooleyi</i>	Cooley's meadowrue		X			X	LE	LE
<i>Tillandsia fasciculata</i>	Stiff-leaved wild pine			X	X			
<i>Tolfieldia racemosa</i>	Asphodel		X			X		
<i>Toxicodendron</i> spp.	Poison ivy		X	X	X			
<i>Utricularia</i> spp.	Bladderworts		X	X		X		
<i>Vaccinium elliotii</i>	Elliot's blueberry		X					
<i>Vaccinium arboreum</i>	Sparkleberry	X						
<i>Vaccinium corymbosum</i>	Highbush blueberry		X	X				

Non-Comprehensive List of Potential Plant Species that Could Occur in the Devil's Swamp Mitigation Bank

Scientific Name	Common Name	Community Types*					Federal Status	State Status
		UP	MHP	MFW	CS	SAV		
<i>Vaccinium darrowi</i>			X					
<i>Vaccinium myrsinites</i>	Shiny blueberry	X	X					
<i>Vaccinium stamineum</i>	Deerberry		X	X				
<i>Verbesina chapmanii</i>	Chapman's crownbeard		X			X	N	LT
<i>Viburnum nudum</i>	possumhaw			X	X			
<i>Vitis rotundifolia</i>	Muscadine grape		X					
<i>Woodwardia areolata</i>	netted chain fern		X	X	X			
<i>Woodwardia virginica</i>	Chain fern		X	X	X			
<i>Xyris scabrifolia</i>	Harper's yellow-eyed grass		X	X	X	X	N	LT
<i>Xyris</i> spp.	Yelloweyed grasses		X	X	X	X		
<i>Yucca filamentosa</i>	Yucca	X						
<i>Yucca flaccida</i>	Weak-leaf yucca	X						
<i>Zigadenus</i> spp.	Crow poison		X	X		X		

*UP=Upland Pines-Xeric Communities; MHP=Mesic/Hydric Pine; MFW=Mixed Forested Wetlands; CS=Cypress Swamps; SAV=Savannah.

Note: Federal and state listing status only provided for species that are listed (in bold); all others are non-listed species.

Federal Legal Status (refer only to Florida populations; federal status may differ elsewhere):

N = Not currently listed, nor currently being considered for listing as Endangered or Threatened.

State Legal Status/Plants (Definitions from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001):

LE = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.

LT = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.

LS = Species of Special Concern is a species, subspecies, or isolated population which is facing a moderate risk of extinction in the future.

ATTACHMENT B-8 – MONITORING PLAN

Performance Monitoring

Rehabilitated ecosystems are dynamic and require periodic evaluation regarding the attainment of the target conditions. The annual monitoring will provide quantitative and qualitative information for adaptive management and to determine success. Monitoring components are detailed in the following sections.

Vegetation species composition and richness, as well as proportional distribution of life-forms (e.g., graminoids, forbs and woody plants), will indicate the relative hydroperiod, edaphic redox status, and fire periodicity. Vegetation monitoring and limited hydrologic monitoring are proposed for quantitative assessment. Extensive qualitative observations, and photographic monitoring will also be performed to provide greater coverage and to ensure that the quantitative monitoring is representative of the general polygon and site conditions.

Vegetation monitoring will measure two parameters: community structure and species abundance. Extensive observations of similar ecosystems were utilized in the development of the protocols detailed in DEP Permit 170880-001, which, in turn, are adapted for use here. Monitoring will be conducted annually in autumn, preferably during the latter half of October when most grasses and sedges are in fruit and can be most easily identified. Monitoring reports will include the results of the monitoring activities along with a catalog of photographs taken at permanent stations. Photograph stations will be established in each quadrat and walk path as described below.

Hydrologic monitoring will measure ground and surface water parameters, as described below.

Protocols

Some vegetative monitoring shall encompass the entire restoration project site (landscape scale) and other monitoring shall be conducted within permanent 100 by 200 foot quadrats located in representative areas of the different polygons in each phase (proposed quadrats depicted in Exhibit B-1-7).

Landscape monitoring will involve a thorough walk through of these sites recording qualitative observations of: woody vegetation, exotic species, wildlife utilization, effects of fire, and maintenance needs (fence, signs, firebreaks, etc). Qualitative monitoring walk paths will be conducted to ensure that more internal portions of the site are observed (proposed walk paths depicted in Exhibit B-1-7).

The specific parameters to be observed and recorded on the walk paths are:

Hydric Pine Flatwoods & Savannas:

- Estimated % cover graminoids and non-wood herbaceous vegetation
- Estimated % cover woody vegetation <1ft and >1ft
- Notation of seeding and/or new growth
- Estimate of tree distribution, health and size
- Species, location and required treatment of exotics observed
- Water table/soil saturation notes
- Wildlife observed and other evidence of wildlife usage (including hog damage)

Mixed Forested Wetlands & Cypress Swamps

- Estimated % cover non-wood herbaceous vegetation by averaging 4 densiometer readings
- Notation of seeding and/or new growth
- Estimate of tree distribution, health and size
- Species, location and required treatment of exotics observed
- Water table/soil saturation notes
- Wildlife observed and other evidence of wildlife usage (including hog damage)

Upland Pines finalize based on performance standards

- Estimated % cover graminoids and non-wood herbaceous vegetation
- Estimated % cover woody vegetation <1ft and >1ft
- Notation of seeding and/or new growth
- Estimate of tree distribution, health and size
- Species, location and required treatment of exotics observed
- Wildlife observed and other evidence of wildlife usage (including hog damage)

A descriptive summary shall also be included that compares the site to the quadrats and evaluates observable progress toward the restoration goals, evaluates the effectiveness of management activities to date, and recommends additional or revised management activities as appropriate to achieve success. Observations and photographs will be included in the site-wide portion of each monitoring report.

Specific quantitative measurements will be taken in 100 ft. x 200 ft. sample quadrats depicted in Exhibit B-1-7. The quadrats are located so that all proposed communities are represented independently and relatively proportionally and each quadrat shall enclose land that is relatively homogeneous with respect to polygon conditions ... A chosen point will represent the northeastern corner of a rectangle, which will be 100 by 200 feet and whose sides follow cardinal directions with the long axis running east and west. The point shall be marked by a secured and labeled iron rebar or similarly permanent, fire-resistant stake. Each stake shall be identified on the aerial photograph and its position fixed by GPS. Prior to the first monitoring event, the MBRT may require that any quadrat be relocated elsewhere within the site.

Sampling stations will occur along the perimeter of each 100 ft. x 200 ft. quadrat at 3 ft. intervals. Community structure will be sampled by recording the plant species intercepted at each of the 200 points along the perimeter of the quadrat, with percent cover of a species being defined as the percentage of intercept points in which it was observed. Species abundance/richness will be measured by recording all species found within the 100 ft. x 200 ft. quadrat. Woody shrub height will also be recorded. Supplemental monitoring (e.g., to document spring-fruited species, response to remedial actions, etc.) may be conducted, as needed, to identify all species. Measurements of shrub height, percent cover of graminoids and exotics, and species richness will be presented in a form to address success criteria of the permit.

Surface water gauges will be set at three locations depicted on Exhibit B-1-7. Groundwater wells will be installed at six locations depicted on Exhibit B-1-7. These will be monitored on a continuously and monthly basis, respectively. In conjunction with the vegetation monitoring data, the gauges and wells will be used to interpret the invert elevation being tested at the stoplog weirs, in order to fine tune the final elevation at which they will be set to best restore and maintain the intended ecological conditions. The stop logs will need to be removed periodically to allow the site to dry down for prescribed burns to be implemented, but only for the minimum amount of time needed to allow the burn.

Photography

Because of the size of the site and the nature of the mitigation expectations, photography will play a very important role in monitoring. As such, it is important to note some general photographic specifications. Most photos will be taken using digital cameras, but no editing, other than size, will be allowed, except as specifically noted in the documentation submitted with the photo. All photos will be dated, preferably on the photo itself, or directly below the printout of the photo. Photos taken from fixed sites shall include an identifying feature or marker within the photo. All photos will be submitted as printouts or, as requested, electronically. At a minimum, annual aerial oblique photographs will be taken to support the requirements below. Photographic monitoring locations are coincident with the northeast corner of each sampling quadrat. Photos will be oriented in a southwestern direction.

Baseline Monitoring

Before ecological restoration activities are begun, the monitoring transects and stations will be used to gather baseline information including:

1. General site conditions within and in the vicinity of each plot
2. Evidence, if any, of disturbances, past or present, which may affect plant species composition and abundance
3. Plant community structure: vegetation cover, height, and life form by stratum
4. Plant species composition and diversity and, by extrapolation, differences in species composition between monitoring plots
5. Abundance of plant species within each plot

Appropriate metrics and statistical analysis will be applied to the sampling data. Data from the sampling quadrats will be evaluated with respect to vegetation characteristics of desired plant communities.

Reports and Record Keeping

Reports including all observations, raw and processed data, and photographs will be compiled into an annual report. Annual monitoring will occur each fall beginning October 2004 or 2005. A copy of all records, in addition to that submitted, will be maintained at the office of the Qualified Mitigation Specialist of record.

Success

The mitigation project is expected to be successful in restoring the pre-existing communities on the site. Many of the indicator species for the desired vegetative communities were found in the mitigation area during the field surveys. Attachment B-7 presents species that could occur in the Devil's Swamp Mitigation Bank.

The monitoring results will be compared with the baseline data and evaluated against the performance standards (Part IV, Section E of the Permit). If after three years the ground cover is not clearly trending toward the target condition, then the depauperate areas will be seeded or plugged with local, native species typical of the target community type, as reviewed and approved by the authorizing agencies.

Reference Wetlands

Tate's Hell State Forest, the Apalachicola National Forest and the NFWMD's Devils Swamp landholding preserve and manage several areas that provide intact sandhills, hydric and mesic pine flatwoods, savannahs, and cypress domes. These systems support well-developed levels of plant composition and structure, topography, and hydrology useful as references for evaluating the DSMB. If deemed necessary to further quantify the success of the restoration effort, specific sites may be selected with the interagency Technical Team and photography, qualitative observations, and quantitative data from these sites to provide as reference standard information for the DSMB.

ATTACHMENT B-9 – HYDROLOGIC RESTORATION PLAN

Devil's Swamp Mitigation Bank

Bay and Walton Counties, Florida

February 20, 2004

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Hydrologic Restoration Plan

**Hydrologic Restoration Plan
for
Devil's Swamp Mitigation Bank**

Table of Contents

1 Introduction	67
2 Existing Conditions.....	67
2.1 Landscape Setting	67
2.2 Topography and Hydrology.....	67
2.3 Soils.....	67
2.4 Land Uses	70
2.5 Groundwater	70
2.6 Floodplain.....	70
2.7 Drainage Patterns	71
3 Hydrologic and Hydraulic Analyses.....	71
3.1 Model Development	71
3.2 Model Methodology.....	71
3.3 Hydrologic Unit Delineation.....	72
3.4 Conveyance Elements	72
3.5 Stage-Area Storage	72
3.6 Design Storms.....	72
4 Model Results	72
4.1 Proposed Improvements.....	73
4.2 Monitoring Plan	75
References.....	75

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1 Introduction

The St. Joe Company (SJC) wishes to restore and enhance approximately 3,049 acres of wetlands and uplands that are primarily in silviculture within a portion of their property in Bay and Walton Counties, Florida. The proposed project, known as the Devil's Swamp Mitigation Bank (here after referred to as the "DSMB"), is located north of the Intracoastal Waterway (ICW), south of Steele Field Road, about 5 miles east of Choctawhatchee Bay, and about 7.5 miles west of State Road (SR) 79 (Exhibit 1-1).

The hydrologic plan contained herein provides technical documentation in support of issuance of a U.S. Army Corps of Engineers (Corps) Section 404 Regional General Permit (RGP) and a Florida Department of Environmental Protection (FDEP) Ecosystem Management Agreement (EMA) for the West Bay to East Walton RGP/EMA Project.

2 Existing Conditions

2.1 Landscape Setting

The 3,049-acre DSMB is entirely within property owned by SJC (Exhibit 1-1). Surrounding and nearby land uses include silviculture, conservation, residential, and industrial (Steele Field Road Landfill on Steele Field Road in Bay County). The DSMB is located north of the Intracoastal Waterway (ICW), south of Steele Field Road, about 5 miles east of Choctawhatchee Bay, and about 7.5 miles west of State Road (SR) 79.

The DSMB is located within four drainage basins: Roaring Creek, Direct Runoff to Bay, Tenmile Branch via Ninemile Branch, and Westbay Creek, which are within the Choctawhatchee Bay watershed (FGDL 2003; Fernald and Purdum 1998). The Choctawhatchee Bay watershed consists of approximately 5,349 square miles; the uplands primarily consist of mixed hardwood/pine forest and longleaf pine/xerophytic oak forests. Land is primarily used for silviculture, with agriculture more extensive in the northern portion of the watershed. Erosion/sedimentation are main concerns throughout the watershed; animal waste, urban stormwater, and septic tanks also are cited as problematic (FDEP 1999).

2.2 Topography and Hydrology

Topography across the DSMB varies from about 35 to 40 feet NGVD over the majority of the site and falls to about 20 feet NGVD in the northwestern connection to the NFWFMD lands. Most of the site has relatively gentle topography, except in the northwest corner where it can be sudden and steep from sandhill to cypress dome or stream. In the majority of the site the wetlands are like shallow, rimmed platters with low rises between deep wetland systems. A copy of the USGS quadrangle for the project area is included in Exhibit 2-1.

2.3 Soils

According to the Natural Resources Conservation Service (NRCS) soil surveys for Bay and Walton Counties, Florida (USDA 1981, 1984), eight soil units in Bay County and eight soil units in Walton County are present on the property (Table 2-1). Locations of soil units are depicted on Exhibit 2-2.

**Table 2-1. USDA NRCS Soil Types within the Devil's Swamp Mitigation Bank
Bay County**

Soil Number	Soil Type	Hydric or Not Hydric
1	Albany Sand, 0 to 2 percent slopes	Not Hydric
13	Leon Sand	Hydric - Not Primary
25	Hurricane Sand	Not Hydric
28	Allanton Sand	Hydric – Not Primary
29	Rutlege Sand	Hydric – Primary

Soil Number	Soil Type	Hydric or Not Hydric
30	Pottsburg Sand	Hydric - Not Primary
50	Pickney Fine Sand	Hydric – Primary
51	Rutlege-Pamlico Complex	Hydric – Primary

Walton County

Soil Number	Soil Type	Hydric or Not Hydric
8	Dorovan-Pamlico Association, Frequently Flooded	Hydric – Primary
12	Foxworth Sand, 0 to 5 % Slopes	Not Hydric
17	Lakeland Sand, 0 to 5 % Slopes	Not Hydric
21	Leon Sand	Hydric - Not Primary
27	Rutlege Fine Sand	Hydric - Not Primary
57	Hurricane Sand, 0 to 5 % Slopes	Not Hydric
63	Pickney Sand, Depressional	Hydric – Primary
64	Pamlico Muck	Hydric – Primary

Bay County

Albany Sand: This somewhat poorly drained, nearly level sandy soil occurs along defined drainageways and on areas leading to lower wet areas. Natural vegetation consists of longleaf and slash pines; blackjack, post, and blue oaks; gallberry; wax myrtle; and wiregrass. This soil has a water table at a depth of 18 to 30 inches for 1 month to 3 months during most years. The NRCS Ecological Community typical for this soil type are mixed hardwood & pine and upland hardwood hammocks.

Leon Sand: This poorly drained, nearly level soil occurs in pine flatwoods areas where the natural vegetation consists of a canopy of longleaf, pond, and slash pine; water oak and an understory of wax myrtle, saw palmetto, running oak, fetterbush, gallberry, and wiregrass. The unit has a water table within a depth of 10 inches for 1 month to 4 months and at a depth of 10 to 40 inches for about 9 months in most years. The NRCS Ecological Community typical for this soil type is north Florida flatwoods.

Hurricane Sand: This somewhat poorly drained, nearly level soil occurs between the uplands and the lower wet flatwoods. Natural vegetation consists of slash and longleaf pines; bluejack, turkey, and post oaks; native shrubs; saw palmetto; gallberry; broomsedge; bluestem; and wiregrass. This soil has a water table at a depth of 40 to 60 inches for 3 to 6 months in most years and at a depth of 20 to 40 inches for 1 to 3 months in some years. The NRCS Ecological Community typical for this soil type is longleaf pine-turkey oak hills.

Allanton Sand: This poorly drained soil is on nearly level or slightly depressional areas along poorly defined drainageways. Natural vegetation consists of black titi, sweetbay, black gum, cypress, scattered slash and longleaf pines, gallberry, wax myrtle, and wiregrass. This soil has a water table at or near the surface for 4 to 6 months during most years, and most low-lying areas and drainageways are flooded for 4 to 6 months annually. The NRCS Ecological Community typical for this soil type is swamp hardwoods.

Rutlege Sand: This very poorly drained soil is on nearly level or slightly depressional areas along drainageways. The natural vegetation is black titi, sweetbay, black gum, cypress, and scattered slash pine. The understory is gallberry, wax myrtle, wiregrass, and various reeds and sedges. The Rutlege sand has a water table at or near the surface for 4 to 6 months during most years and is under ponded conditions for 4 to 6 months annually. The NRCS Ecological Community typical for this soil type are cypress swamp, swamp hardwoods, shrub bog, and pitcher plant bog.

Pottsburg Sand: This poorly drained soil is on nearly level, low-lying areas of the flatwoods. The natural vegetation consists of sweetbay, black titi, black gum, water oak, scattered slash and longleaf pine, gallberry, sweet gallberry, saw palmetto, wax myrtle, and wiregrass. The soil unit has a water table within a depth of 10 inches for 4 to 6 months during most years. Some low-lying

inclusions are ponded for 2 to 6 months annually. The NRCS Ecological Community typical for this soil type is north Florida flatwoods.

Pickney Fine Sand: This very poorly drained soil is on nearly level, broad flats and slightly depressional areas along poorly defined drainageways. Natural vegetation consists of sweetbay, black gum, cypress, black titi, scattered slash and longleaf pine, sweet gallberry, wax myrtle, and wiregrass. This soil has a water table at or near the surface for 4 to 6 months during most years, and most low-lying areas are ponded for 3 to 6 months after flooding during rainy seasons. The NRCS Ecological Community typical for this soil type is shrub bog.

Rutlege-Pamlico Complex: This nearly level, very poorly drained, frequently flooded soil complex occurs mainly in drainageways and a few wide depressional areas. The natural vegetation consists of sweetbay, black gum, red maple, sweet gum, slash pine, black titi, wax myrtle, sweet azalea, sweet gallberry, and smilax species. The Rutlege soils have a water table near the surface for 4 to 6 months in most years and may be ponded after flooding. The Pamlico soils may be ponded for 4 to 6 months in most years after flooding, and when the soils are not flooded, the water table is within 20 inches of the surface most of the time. Pantego soils (10% of unit) have a water table within 10 inches of the surface for 2 to 4 months during most years and at a depth of 40 inches for 3 to 6 months. The NRCS Ecological Community typical for this soil type is typically swamp hardwoods, but may also be cypress swamp, shrub bog, or pitcher plant bog.

Walton County

Dorovan-Pamlico Association, frequently flooded: This complex of nearly level, very poorly drained soils occurs mainly in large, hardwood swamps and floodplains of major drainageways. Dorovan soils occur in the middle of the drainageways and Pamlico on the outer parts. Natural vegetation is mostly bald cypress, black gum, sweetbay, white titi, scattered slash pine, bracken fern, greenbrier, muscadine vine, and wax myrtle. The Dorovan soil has a high water table near or above the surface for most of the year and floods more often than once every two years for periods of more than 1 month. The Pamlico soil has a high water table near or above the surface for most of the year and floods more often than once every two years for periods of 7 days to 1 month. The NRCS Ecological Communities typical for this soil type are often swamp hardwoods and sometimes shrub bog.

Foxworth Sand, 0 to 5 % Slopes: This moderately well drained and nearly level to gently sloping soil occurs on uplands and in elevated areas in flatwoods. Natural vegetation is mostly slash pine, loblolly pine, longleaf pine, live oak, post oak, bluejack oak, turkey oak, laurel oak, red oak, water oak, huckleberry, gallberry, and dogwood. This soil has a water table that fluctuates between depths of 40 and 72 inches for 1 to 3 months during most years and between 30 and 40 inches for less than 1 month in some years. The NRCS Ecological Community typical for this soil type are longleaf pine-turkey oak hills and mixed hardwood & pine.

Lakeland Sand, 0 to 5 % Slopes: This excessively drained and nearly level to gently sloping soil occurs on broad ridgetops on uplands. Natural vegetation is mostly sand pine or longleaf pine, live oak, turkey oak, saw palmetto, wiregrass, bluestem grasses, and reindeer moss. This soil does not have a high water table within a depth of 6 feet. The NRCS Ecological Community typical for this soil type is longleaf pine-turkey oak hills.

Leon Sand: This soil consists of deep, poorly drained, moderately to moderately rapidly permeable soils that formed in thick, sandy marine sediment in broad, nearly level areas of the flatwoods. Natural vegetation is mostly longleaf pine, loblolly pine, slash pine, water oak, and wax myrtle. The water table is at a depth of 10 to 40 inches for more than 9 months during most years. During periods of high rainfall, the water table is less than 10 inches deep; the water table recedes to a depth of more than 40 inches during extended dry periods. The NRCS Ecological Community typical for this soil type is north Florida flatwoods.

Rutlege Fine Sand: This unit consists of deep, very poorly drained, rapidly permeable soils that formed in thick, sandy sediment on marine terraces. It occurs in shallow depressions and on stream or creek floodplains and on flats. Natural vegetation consists of hardwoods, pond pines or

slash and loblolly pines, huckleberry, wax myrtle, greenbriers, wiregrass, and sedges. These soils are saturated in winter and early spring. The water table is at or near the surface for long periods, and shallow ponding is common. The NRCS Ecological Community typical for this soil type are cypress swamp, swamp hardwoods, shrub bog, and pitcher plant bog.

Hurricane Sand, 0 to 5 % Slopes: This somewhat poorly drained and nearly level soil occurs on slightly elevated areas in flatwoods. Natural vegetation consists of slash pine, loblolly pine, longleaf pine, bluejack oak, turkey oak, post oak, yaupon, saw palmetto, gallberry, broomsedge, and wiregrass. This soil has a high water table within 20 to 40 inches of the soil surface for 3 to 6 months in most years and below a depth of 40 inches for the rest of the year. The NRCS Ecological Community typical for this soil type is longleaf pine-turkey oak hills.

Pickney Sand, Depressional: This soil consists of deep, very poorly drained, rapidly permeable, sandy soils that formed in marine sediment on nearly level drainageways and in depressions on flatwoods. Natural vegetation consists of hardwoods, swamp cyrilla, bald cypress, yaupon, pond pines, slash pine, loblolly pine, greenbriers, wiregrass, sweet gallberry, and sedges. This soil is ponded for more than 4 months annually. The NRCS Ecological Community typical for this soil type is shrub bog.

Pamlico Muck: This poorly drained and nearly level soil occurs in depressional areas of the flatwoods. Natural vegetation consists of swamp cyrilla, greenbrier, bald cypress, pond pine, and sweetbay. This soil has a water table up to 2 feet above the surface for 6 months in most years. The NRCS Ecological Community typical for this soil type is swamp hardwoods.

2.4 Land Uses

The proposed mitigation bank is primarily planted slash or sand pine plantation, comprising approximately 54.4% and 4.5% of the site, respectively, of various ages from about 5 years to 25 years. Some of the older plantings have recently been thinned every third row. Much of the site was furrowed during planting, and furrow depths range from about 6 to 15 inches, typically 6 to 8 inches deep. Due to fire suppression, shrub percent cover is some to much higher than would naturally occur in the historical natural communities. There has been no infrastructure constructed on the site other than logging roads and ditches to support silviculture use.

Unpaved logging roads criss-cross the site and traverse both upland and wetland communities. Most of the on-site roads are clearly visible on the 1949 aerials of the DSMB, which was well before pine planting was begun on the site. Most roads are 30 to 40 feet wide. At least one north-south road (County Line Road) and one east-west road are wider, about 50 feet. Road crossings of wetlands are more often culverted; where crossings are not culverted, they are sometimes slightly raised, but may flood frequently.

Water cover, depth, and flow direction across the site have been affected by activities related to silviculture – construction of ditches and logging roads, bedding and furrowing, and skidder trails – and by the ICW and spoil areas and reservoirs associated with and located along the ICW. In addition, dense pine plantings and shrub cover have undoubtedly increased evapotranspiration. The reduction of dense pine, as proposed, will lower the evapotranspiration rate.

2.5 Groundwater

The normal wet season groundwater table elevations in this area are controlled by the ditching and are estimated to range between 6 inches to 2 feet below land surface. The Soil Survey data was field verified by WilsonMiller in December 2003.

2.6 Floodplain

Floodplain delineations are obtained from the Federal Emergency Management Agency (FEMA) Flood Hazard Insurance Rate Map for Bay and Walton Counties. A majority of the project is located within the 100-year flood plain and is illustrated in Exhibit 2-3. (FEMA, September 2002).

2.7 Drainage Patterns

The Devil's Swamp area stormwater runoff collects from the area identified within the project boundaries. Very little runoff enters the project area from outside the project boundaries. Runoff generated from within the project area is collected in a series of manmade ditches. Drainage features and patterns are shown in Exhibit 2-4.

The eastern side of the project area (Bay County side) discharges towards the north into Nine Mile Branch and to the south into Broomstraw Branch. Nine Mile Branch is a naturally formed creek that is approximately ten feet lower in elevation than that of the project area. The Broomstraw Branch is a naturally formed creek that is also approximately ten feet lower in elevation than that of the project area.

The western side of the project area (Walton County side) discharges towards the north into Nine Mile Branch (with final outfall to Ten Mile Branch) and to the south into the Intracoastal Waterway. Nine Mile Branch is a naturally formed creek that in this location is approximately twenty feet lower in elevation than that of the project area. The Intracoastal Waterway is an excavated shipping channel that is approximately thirty feet lower in elevation than that of the project area. Precondition drainage flows, existing culvert locations and water features are illustrated in Exhibit 2-4.

3 Hydrologic and Hydraulic Analyses

3.1 Model Development

This section describes the methods used to compile data for the hydrologic restoration evaluation. The goal of the hydrologic report is to conduct an evaluation on pre and post hydrologic conditions that will occur during the rehydration of the Devil's Swamp mitigation area.

The Devil's Swamp primary stormwater management system (PSWMS) consists of connected series of natural creeks and ditched canals. Characteristic data was obtained from a new field survey, site visits, interviews, topographic and aerial maps. Survey locations and data are illustrated in Exhibits 3-1 and 3-2.

For this study, the existing Devil's Swamp PSWMS (on-site and off-site) was represented with eight (8) hydrologic basins connected by seven (7) link (conveyance/structure) nodes. A nodal diagram is included in Exhibit 3-3. The nodes identified in the Devil's Swamp PSWMS can be classified as either conveyance or storage elements. Conveyance elements include closed conduits, open channels, and road overflows that collect and route runoff through the system. Storage elements (basin nodes) include closed basins, natural depression areas that store and attenuate runoff within the system. Eight basins were delineated for this study and are identified in Exhibit 3-4 and represented symbols labeled N-10 through N-80. Link structures (culverts, road crossings, low areas) at basin outflows are also represented in Exhibit 3-4 and are labeled as L-011 through L-121. Several basins and discharge structures are outside the project boundaries but were required to perform the model analysis.

3.2 Model Methodology

To develop an understanding of the behavior of the stormwater system, WilsonMiller used the recent version of the Advanced ICPR (ICPR) stormwater model. This tool has been verified for stormwater design and master plan uses throughout Florida.

Runoff volume calculations are based on the Runoff Curve Number (CN) method. Hydrological soil group, defined by capacity to hold water, and ground cover conditions within a watershed are used to determine CN values, which, in turn, are used to estimate available soil storage capacity. Runoff volume is then calculated for a specified storm event based on rainfall depth and available soil storage capacity. The rainfall runoff relationship is based on the SCS method.

Peak discharge calculations are based on the Graphical Peak Discharge method. The watershed CN, Time of Concentration (Tc), drainage area and rainfall depth are used to determine peak discharge for a specified storm event.

The next step was the creation of a simplified numerical representation of the actual primary stormwater system. The primary stormwater management system model schematic is presented in Exhibit 3-4. The schematic shows the delineation of hydrologic units, the model nodes into which simulated runoff is input, conveyance channels and structures, as well as, the storage node. Identification numbers for various system elements are also shown on the schematic. The schematic provides a reference between the actual, physical location and the numerical model.

3.3 Hydrologic Unit Delineation

Hydrologic units were determined using topographic maps, aerial photographs, survey data and ground truthing. Hydrologic units are generally defined by natural features or constructed stormwater conveyance systems. Surface areas were determined by using a Geographic Information System (GIS), which assisted in determining the corresponding acreage. These defined units are illustrated in Exhibit 3-4.

3.4 Conveyance Elements

In order to properly determine culvert information for each culvert crossing, survey data was collected by Buchanan & Harper Inc. The pipe diameter was measured, and the length and inverts located then surveyed. This information was the foundation for the model representation of the hydraulic system. In addition to the structure inventory, cross-section survey information of natural channels was obtained at selected points along the canals and creeks. In order to represent channel floodplains, survey data was extended in the hydraulic model based on the topographic maps in order to represent channel floodplains. A copy of the survey data is included in Exhibits 3-1 and 3-2.

3.5 Stage-Area Storage

The stage-area storage relationship for each basin was determined by using topographic survey data, USGS topographic maps and aerial photographs. The average-end area method was used to develop storage volumes within the identified basins.

3.6 Design Storms

Since rainfall gauges were not located in a relative close proximity to the project area, WilsonMiller used the Florida Department of Transportation (FDOT) rainfall distribution information during modeling efforts. Storm return frequencies of 5-year, 10-year, 25-year and 100-year events were modeled. Rainfall depths for the 24-hour duration are 7.92 inches, 9.12 inches, 10.8 inches and 13.44 inches, respectively. The 24-hour duration was selected in order to create enough stormwater runoff to understand the mechanics of the system.

4 Model Results

The model was applied to the various design storm events in the current drainage configuration pattern and is identified in the report as preconditions (Pre). Once the Preconditions model results were obtained and verified, modifications were made to the model that would simulate the proposed improvements for re-hydration of the project area. The proposed improvement model runs are identified in the report as Postconditions (Post).

WilsonMiller, in order to determine the required surface water elevation, reviewed the historic flow patterns and re-establish the desirable plant communities within the project area. The surface water elevations for the desirable plant communities were established throughout the project area by the project ecologists.

Peak stages for the four design events are shown for the selected basin nodes in pre and postconditions in Table 4-1. The locations of the selected basin nodes referenced in the table are shown in Exhibit 3-3. Postcondition for the basin nodes located inside the project area (N-10, N-20 & N-70) show resulting peak water levels greater than or equal to precondition levels. The larger storm events that occur less frequently reflect a slight difference in water elevations. The smaller more frequent storm events show greater increases between 3.2 and 0.5 feet. The basin nodes outside the project area (N-30, N-60 & N-80) show resulting peak water levels equal to or lower than preconditions.

Table 4-1. Peak Stages (feet, NGVD) in Devil's Swamp Area for Various Design Storms

DESIGN STORM EVENT	CONDITION	BASIN NODE					
		N-10	N-20	N-30	N-60	N-70	N-80
100-YEAR	PRE	38.0	40.7	36.8	27.4	30.7	16.3
24-HOUR	POST	38.6	40.7	36.8	27.4	33.0	15.9
25-YEAR	PRE	37.5	40.3	36.4	26.9	29.8	16.1
24-HOUR	POST	38.2	40.6	36.4	26.9	32.5	15.7
10-YEAR	PRE	37.2	39.9	36.2	26.5	29.2	15.9
24-HOUR	POST	38.0	40.4	36.2	26.5	32.1	15.5
5-YEAR	PRE	36.9	39.6	36.0	26.2	28.6	15.8
24-HOUR	POST	37.8	40.2	35.9	26.2	31.8	15.4

Peak flows for the four design events are again illustrated for the selected structure nodes in pre and postconditions. The locations of the selected basin nodes referenced in the table are shown in Exhibit 4-1. Postconditions for the structures show resulting peak flow adjustments based on the proposed improvements.

Table 4-2. Peak Flows (cfs) in Devil's Swamp Area for Various Design Storm Events

DESIGN STORM EVENT	CONDITION	STRUCTURE NODE					
		L-011	L-021	L-031	L-061	L-091	L-121
100-YEAR	PRE	173	1369	51	0	40	147
24-HOUR	POST	91	1417	23	0	1	416
25-YEAR	PRE	128	906	33	0	31	129
24-HOUR	POST	32	923	19	0	13	217
10-YEAR	PRE	99	640	22	0	24	118
24-HOUR	POST	5	638	16	0	12	32
5-YEAR	PRE	73	463	15	0	17	107
24-HOUR	POST	2	438	14	0	10	31

4.1 Proposed Improvements

The preconditions model was modified and the following improvements have been proposed at the following structure locations. The following structure locations are illustrated and identified numerically in Exhibit 4-1.

1. At structure node **L-011**, install an earthen dam structure south of Bunker Road, out of the Walton County right-of-way. The existing culverts under Bunker Road shall remain intact. The earthen structure south (upstream) of the roadway shall include an adjustable stop log system shall be installed to allow for adjustment of the surface water elevation and allow wet season base flow to exit the system. This adjustable stop log system will be mounted to the upstream end of a new 44-inch by 32-inch

culvert. An illustrative representation of the control structure system is included in Exhibit 4-2. Once permanent surface water elevations are established, a hardened low water crossing will be installed. Exhibit 4-3 illustrates the proposed crossing design and elevations based on current post model results. These improvements will establish the desirable surface water elevations and prevent surface water from exiting basin N-70.

2. At structure node **L-021**, install a stabilized earthen dam structure south of Steelfield Road, out of the Bay County right-of-way. The existing culverts under Steele Field Road shall remain intact. The stabilized earthen structure south (upstream) of the roadway will not include an adjustable stop log system but will require a stabilized surface (geoweb) due to the anticipated velocities. An illustrative representation of the control structure system is included in Exhibit 4-3. Once permanent surface water elevations are established, the earthen structure will be hardened to create a low water crossing. Exhibit 4-3 illustrates the proposed crossing design and elevations based on current post model results. These improvements will establish the desirable surface water elevations and restrict surface water from exiting basin N-10.
3. At structure node **L-031**, an adjustable stop log system shall be installed to allow for adjustment of the surface water elevation and allow wet season base flow to exit the system. This adjustable stop log system will be mounted to the upstream end of the existing 44-inch by 32-inch culvert. The additional existing culvert at this location will be plugged. An illustrative representation of the control structure system is included in Exhibit 4-2. Once permanent surface water elevations are established, a hardened low water crossing will be installed. Exhibit 4-3 illustrates the proposed crossing design and elevations based on current post model results. These improvements will establish the desirable surface water elevations in basin N-10.
4. At structure node **L-091**, an adjustable stop log system shall be installed to allow for adjustment of the surface water elevation and allow wet season base flow to exit the system. This adjustable stop log system will be mounted to the upstream end of the existing 44-inch by 32-inch culvert. An illustrative representation of the control structure system is included in Exhibit 4-2. Once permanent surface water elevations are established, a hardened low water crossing will be installed. Exhibit 4-3 illustrates the proposed crossing design and elevations based on current post model results. These improvements will establish the desirable surface water elevations in basin N-20.
5. At structure node **L-121**, install an earthen dam structure south of Steele Field Road, out of the Bay County right-of-way. The existing culverts under Steele Field Road shall remain intact. The earthen structure south (upstream) of the roadway shall include an adjustable stop log system shall be installed to allow for adjustment of the surface water elevation and allow wet season base flow to exit the system. This adjustable stop log system will be mounted to the upstream end of a new 36-inch culvert. An illustrative representation of the control structure system is included in Exhibit 4-2. Once permanent surface water elevations are established, a hardened low water crossing will be installed. Exhibit 4-3 illustrates the proposed crossing design and elevations based on current post model results. These improvements will establish the desirable surface water elevations in basin N-20.

The above improvements are illustrated in Exhibit 4-4 and will require coordination of construction activities with dry periods (minimal rainfall). WilsonMiller recommends that this work be performed during months with less rainfall (October through March). If scheduling requires work during periods with higher rainfall (wet season) additional stormwater pollution control measures will need to be implemented to protect the surrounding environment from contaminants (sedimentation) derived from construction activities. A stormwater pollution prevention plan shall be prepared based upon the proposed construction activities and time period (wet or dry periods).

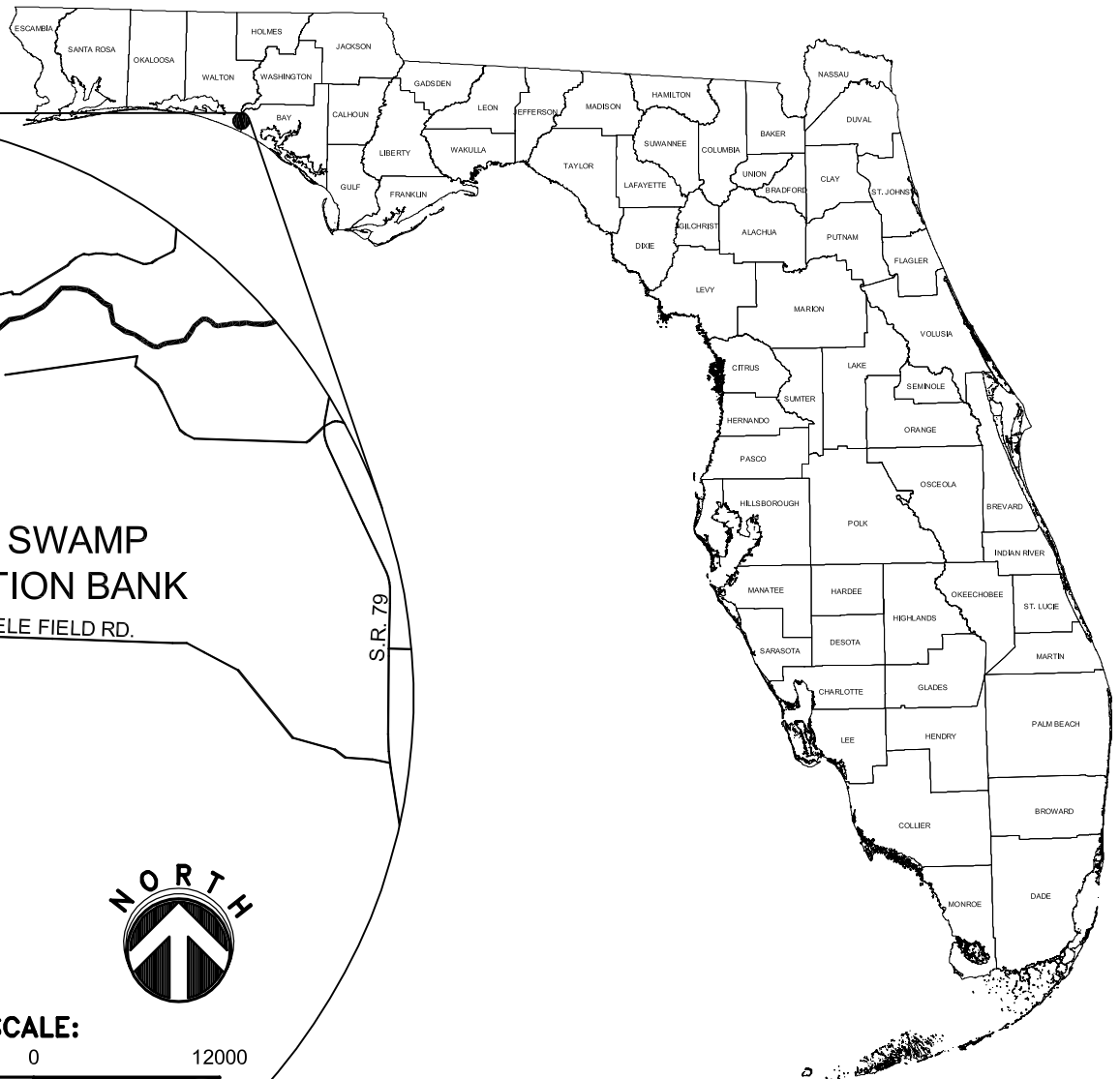
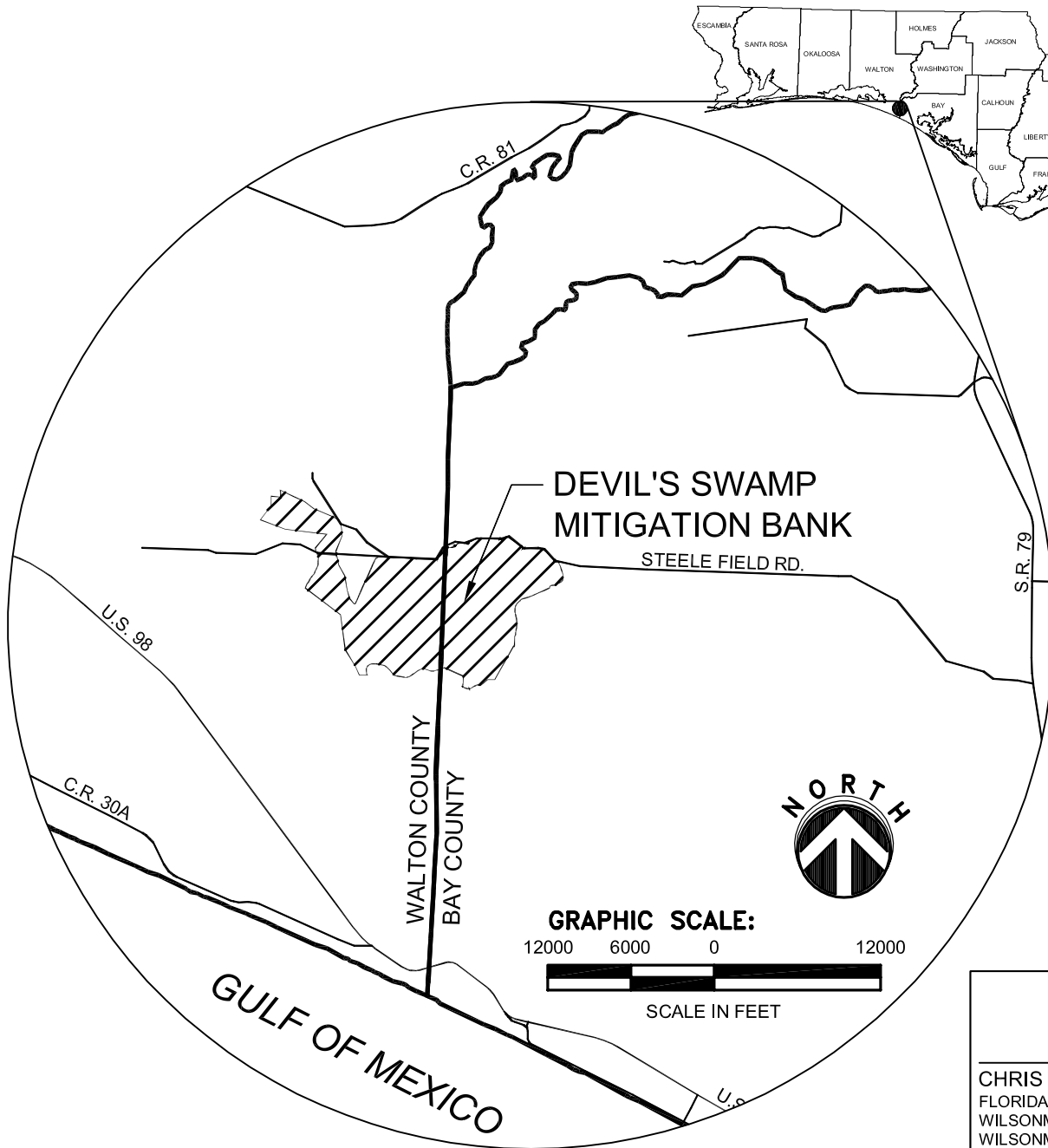
4.2 Monitoring Plan

The proposed structures listed in this section are proposed to create enhanced connectivity, re-establishment of the historic surface water flow and hydroperiod, and maximization of sheetflow within the project area. These proposed structures have been designed for an acceptable service life span, are expected to meet the conditions set forth in the plan, and will be constructed using best management practices (BMPs) to safeguard the site from impacts derived from construction activities. The modeled system has demonstrated that the desired surface water elevations are obtainable and that no off-site flooding impacts are created.

A monitoring plan for the DSMB has been included as Attachment B-8 in the Mitigation Plan Document for Devil's Swamp Mitigation Bank.

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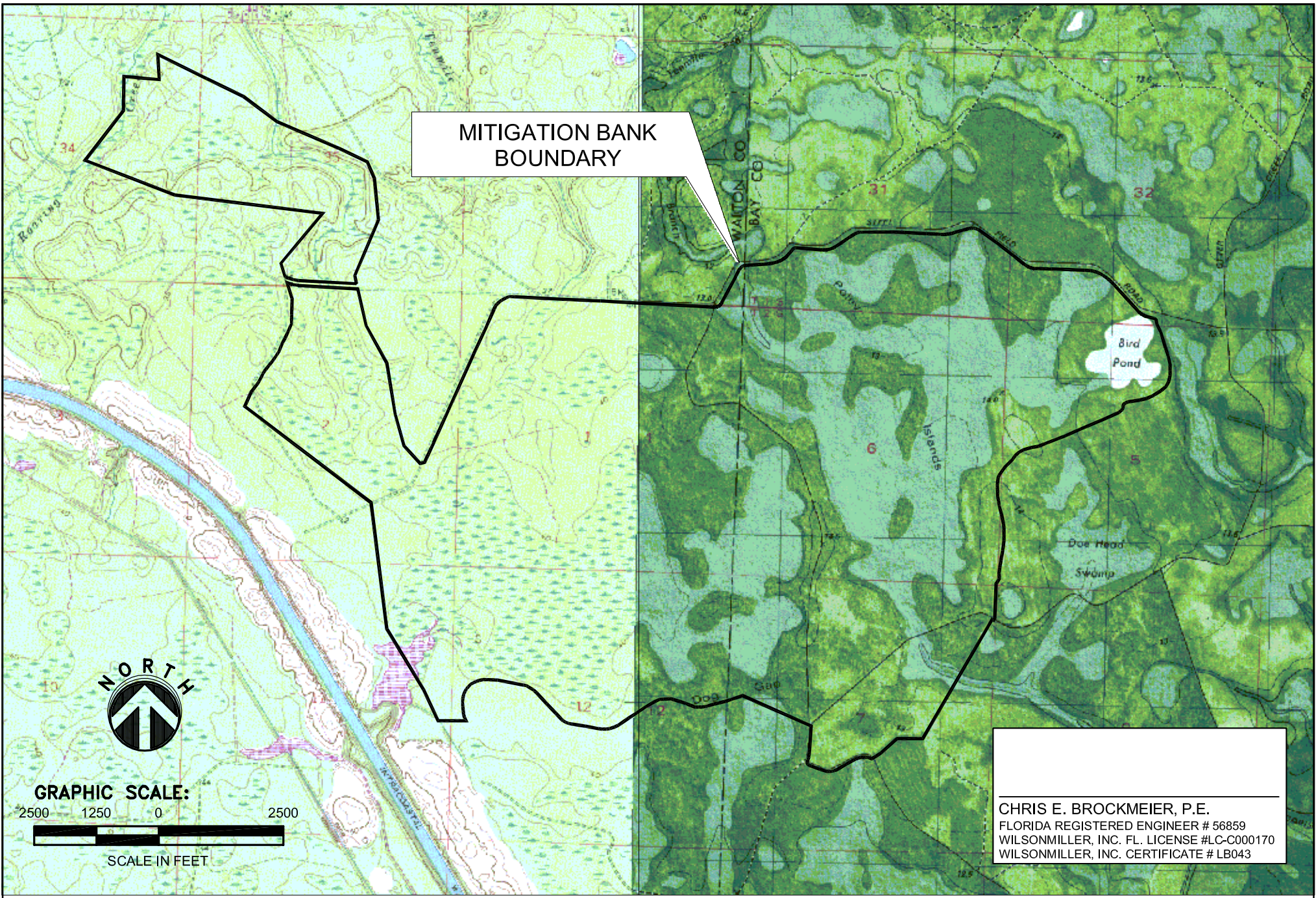
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- _____. 1999. Florida Land Use and Forms Classification System (FLUCFCS).
- Florida Geographic Data Library (FGDL). 2003. Version 3.0, Bay. Geoplan Center, University of Florida.
- FNAI and Florida Department of Natural Resources (FDNR). 1990. Guide to the Natural Communities of Florida.
- United States Army Corps of Engineers (the Corps). 2002. Mitigation Plan Needs Checklist Army Corps of Engineers' Regulatory Guidance Letter for Wetlands and Interagency National Wetlands Mitigation Action Plan. December 27.
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- _____. Soil Conservation Service. 1989. 26 ecological communities of Florida.
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 WILSONMILLER, INC. CERTIFICATE # LB043

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PROJECT NO: 04108-000-000 DRAWN BY/EMP NO. WMB/1467 SHEET NUMBER: 1 OF 11	DATE: FEB. 2004 SCALE: 1"=12,000' REVISION:	 <p>Planners • Engineers • Ecologists • Surveyors • Landscape Architects • Transportation Consultants 1441 Maday Commerce Drive, Suite 101 • Tallahassee, Florida 32312 • 850-878-5000 • 850-878-5941 (F) • www.wilsonmiller.com</p>	EXHIBIT 1-1	PROJECT: DEVIL'S SWAMP MITIGATION BANK CLIENT: ST. JOE LAND COMPANY TITLE: LOCATION MAP
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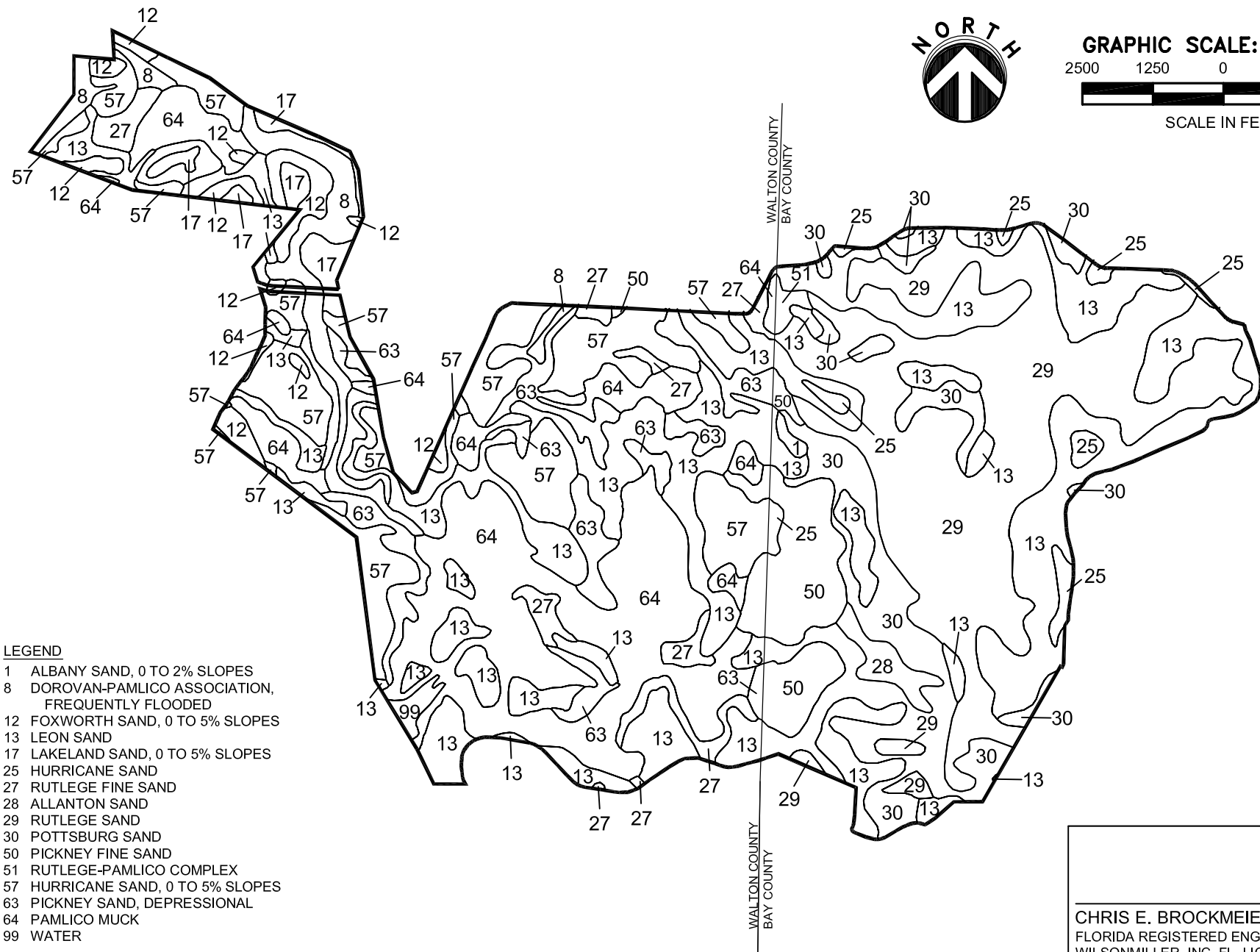
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DRAWN BY/EMP NO. WMB/1467	SCALE: 1"=2500'
SHEET NUMBER: 2 OF 11	REVISION:

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EXHIBIT 2-1

PROJECT:	DEVIL'S SWAMP MITIGATION BANK
CLIENT:	ST. JOE COMPANY
TITLE:	QUAD TOPOGRAPHY MAP



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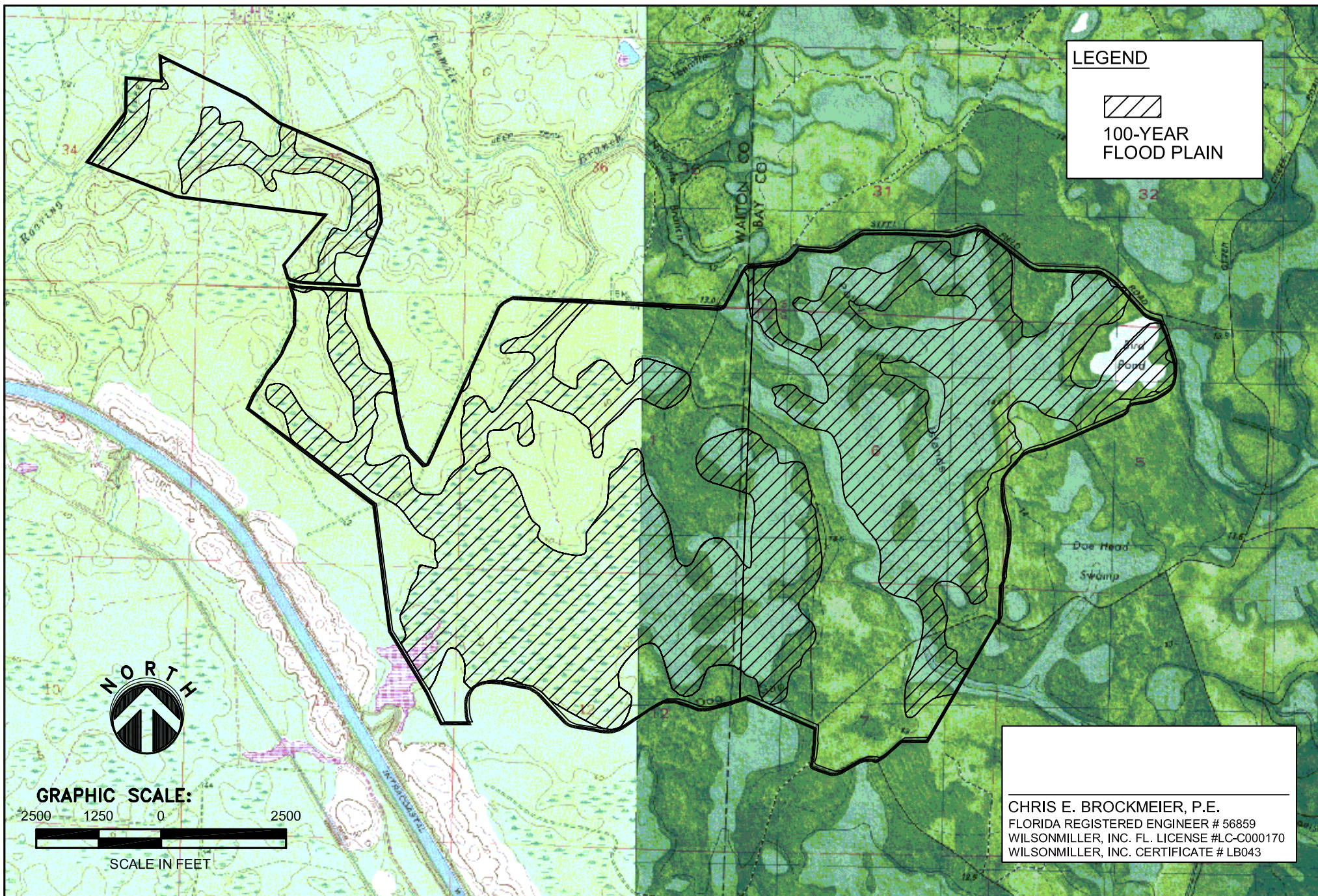
PROJECT NO. 04108-000-000	DATE: Feb. 2004
DRAWN BY/EMP NO. WMB/1467	SCALE: 1"=2500'
SHEET NUMBER: 3 OF 11	REVISION:

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EXHIBIT 2-2

PROJECT:	DEVIL'S SWAMP MITIGATION BANK
CLIENT:	ST. JOE COMPANY
TITLE:	SOILS MAP



LEGEND

 100-YEAR FLOOD PLAIN

CHRIS E. BROCKMEIER, P.E.
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 WILSONMILLER, INC. FL. LICENSE #LC-C000170
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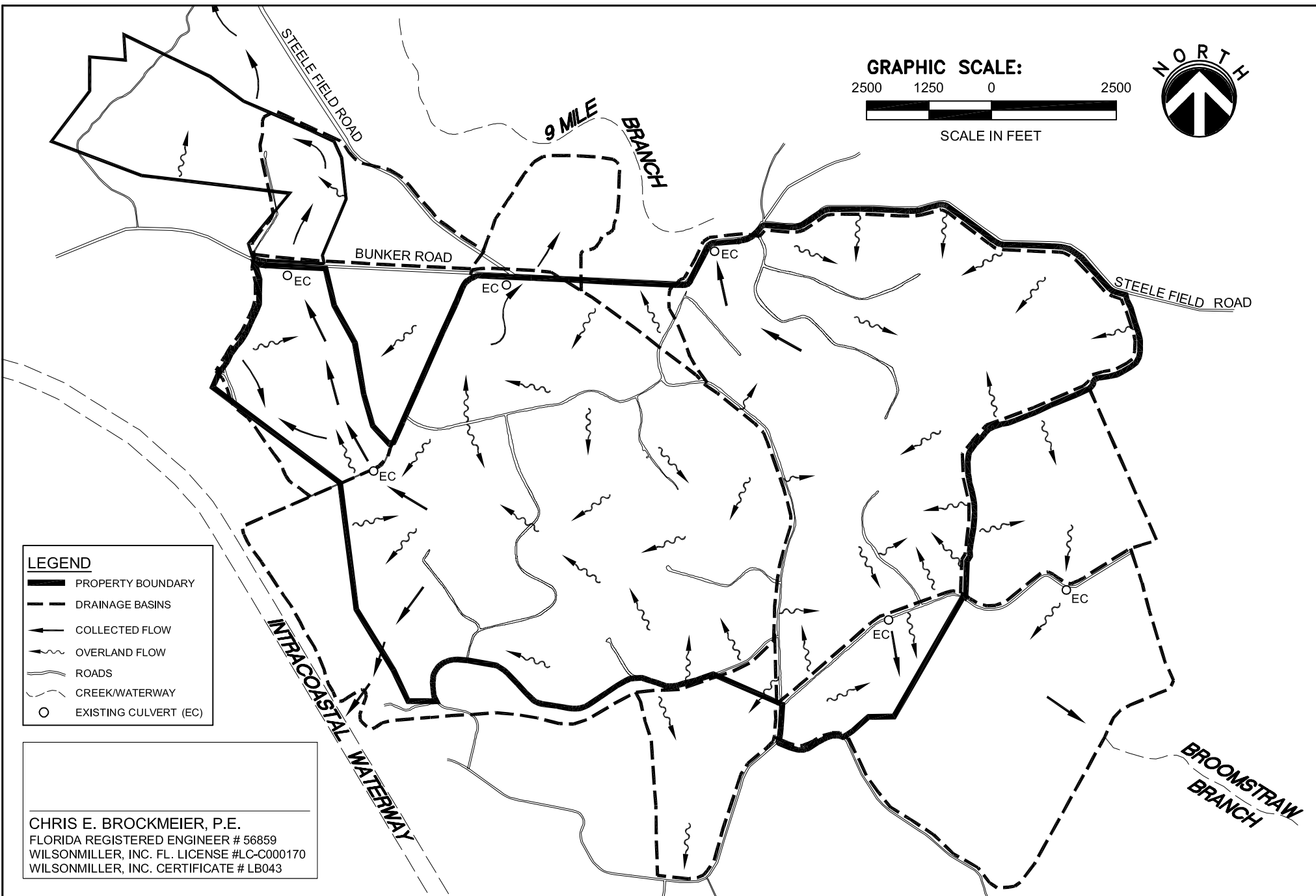
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SHEET NUMBER: 4 OF 11	REVISION:

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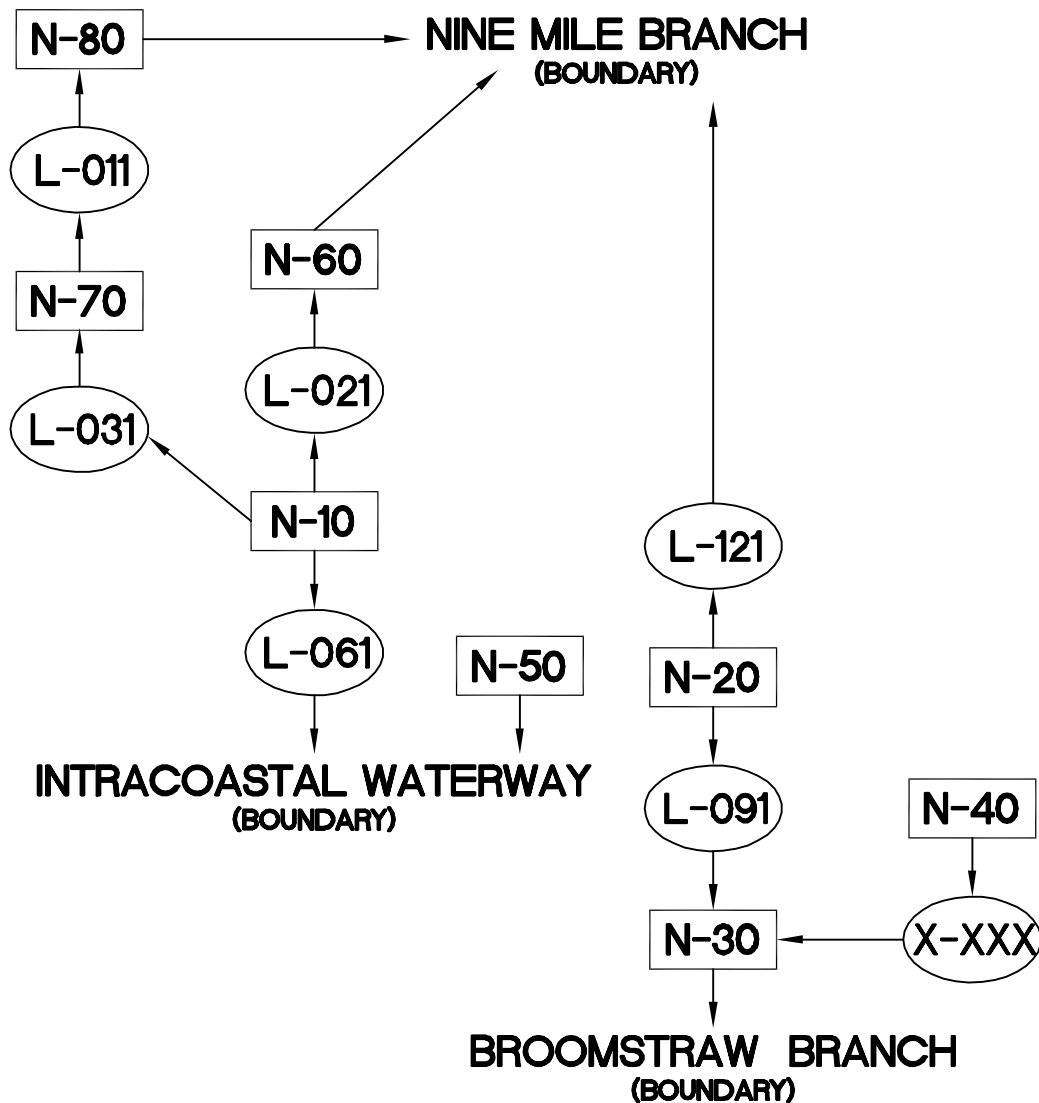
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EXHIBIT 2-3

PROJECT:	DEVIL'S SWAMP MITIGATION BANK
CLIENT:	ST. JOE COMPANY
TITLE:	100-YEAR FLOOD PLAIN MAP



PROJECT NO: 04108-000-000 DRAWN BY/EMP NO. WMB/1467 SHEET NUMBER: 5 OF 11	DATE: Feb. 2004 SCALE: 1"=2500' REVISION:	 <p><small>Planners • Engineers • Ecologists • Surveyors • Landscape Architects • Transportation Consultants 1441 Maclay Commerce Drive, Suite 101 • Tallahassee, Florida 32312 • 950-878-5001 • 950-878-5941 (F) • www.wilsonmiller.com</small></p>	EXHIBIT 2-4	PROJECT: DEVIL'S SWAMP MITIGATION BANK CLIENT: ST. JOE COMPANY TITLE: PRECONDITION DRAINAGE FLOWS
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LEGEND

- PRE AND POST CONDITIONS FLOW
 STRUCTURE NODE NAME
 HYDROLOGIC BASIN ID

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PROJECT: DEVIL'S SWAMP MITIGATION BANK

CLIENT: ST. JOE COMPANY

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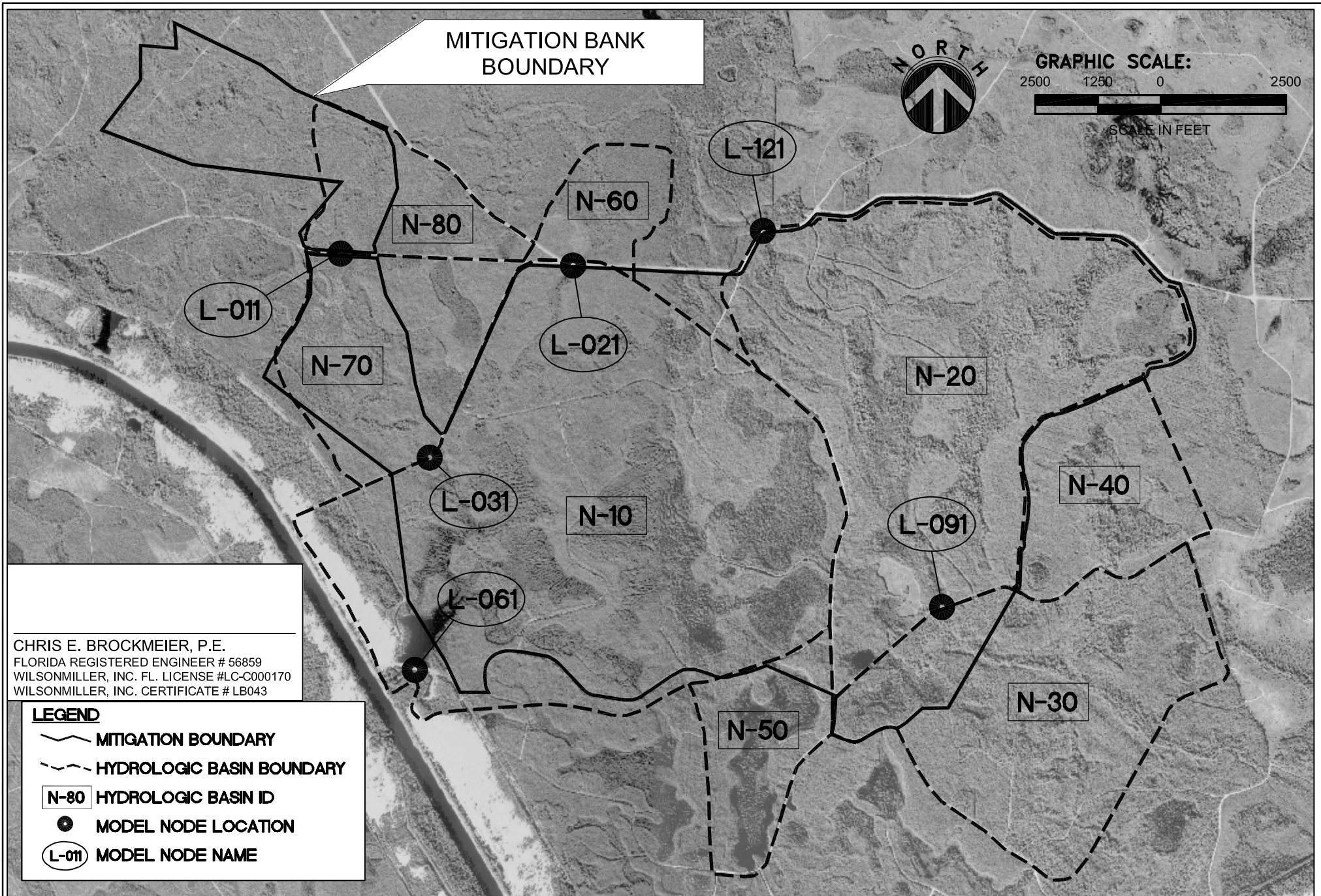
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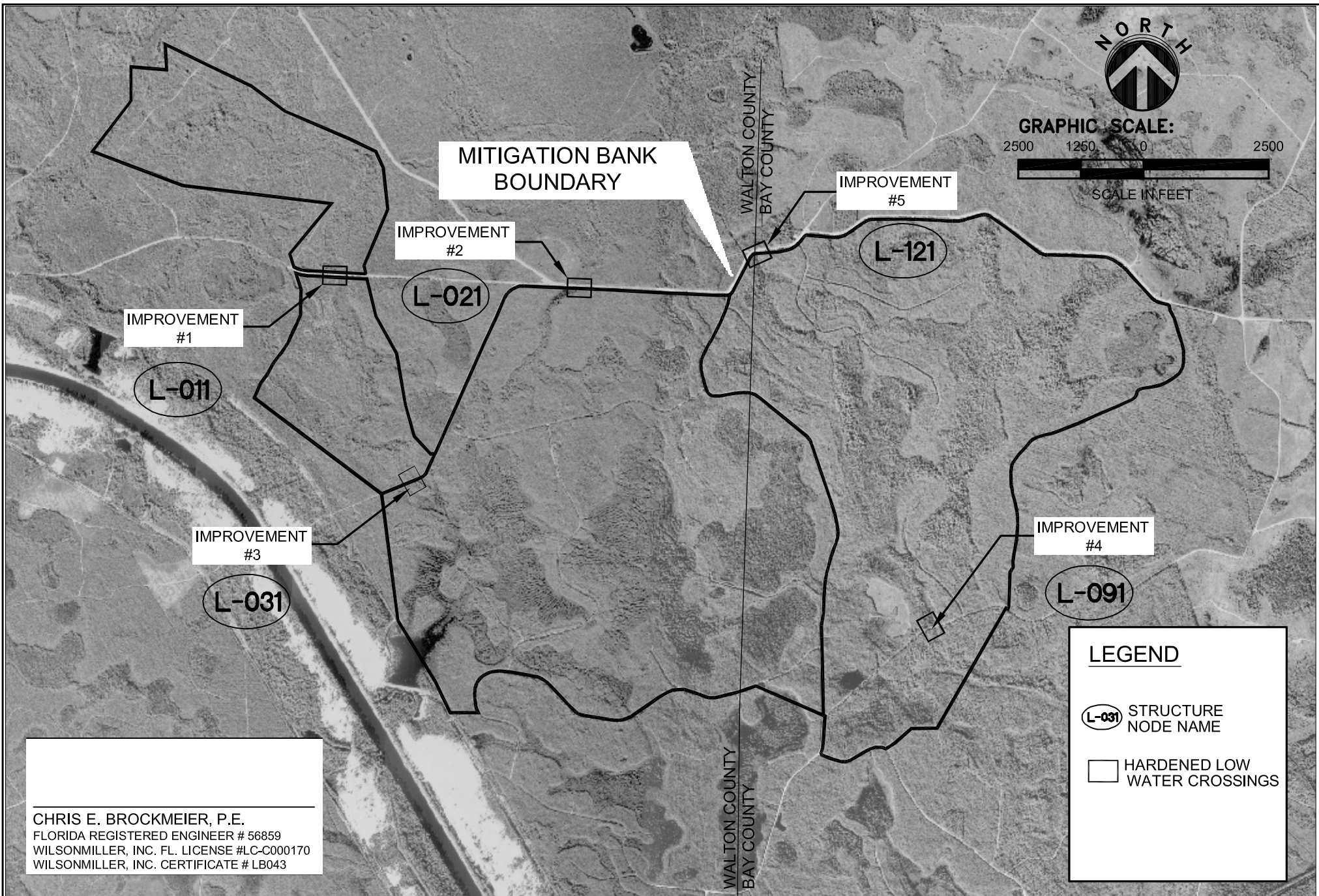
WilsonMiller, Inc. - FL Lic# LC-C000170
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EXHIBIT 3-3 NODAL DIAGRAM

SCALE:	NONE	DATE:	Feb. 2004
SEC:	TWP:	RGE:	REV NO:
PROJECT NO.	04108-000-000	INDEX NO:	
DRWN BY/EMP NO.	TRC/01679	SHEET NO:	6 of 11



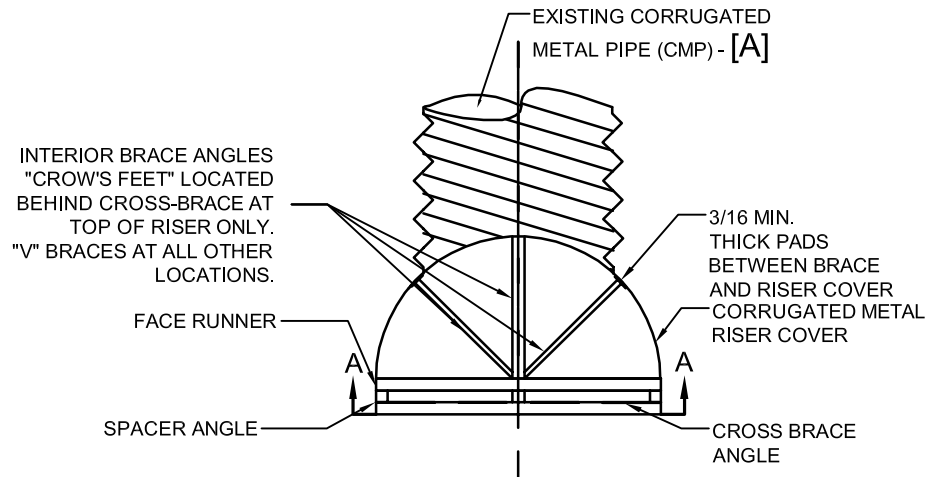
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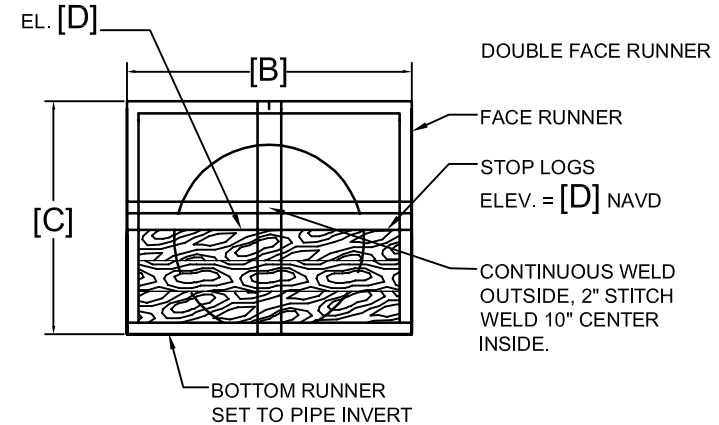
CHRIS E. BROCKMEIER, P.E.
FLORIDA REGISTERED ENGINEER # 56859
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WILSONMILLER, INC. CERTIFICATE # LB043

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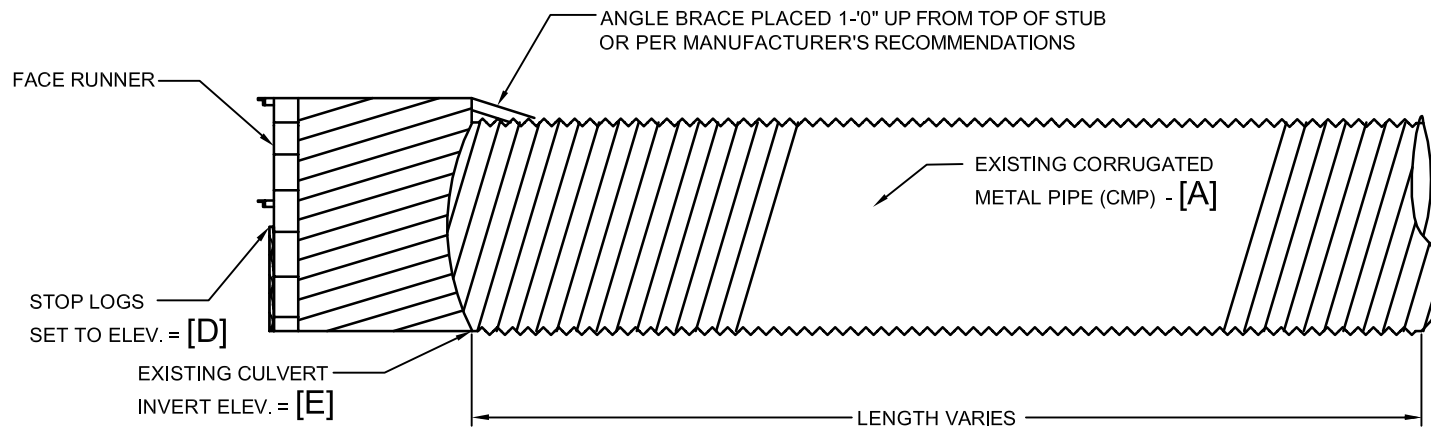
PROJECT NO. 04108-000-000 DRAWN BY/EMP NO. WMBM/1467 SHEET NUMBER: 8 OF 11	DATE: Feb. 2004 SCALE: 1" = 2500' REVISION:	 <small>Planners • Engineers • Ecologists • Surveyors • Landscape Architects • Transportation Consultants 1441 Maclay Commerce Drive, Suite 101 • Tallahassee, Florida 32312 • 850-878-5001 • 850-878-5941 (F) • www.wilsonmiller.com</small>	EXHIBIT 4-1	PROJECT: DEVIL'S SWAMP MITIGATION BANK CLIENT: ST. JOE COMPANY TITLE: PROPOSED IMPROVEMENTS LOCATION
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PLAN VIEW



SECTION A-A



ELEVATION VIEW

IMPROVEMENT SUMMARY TABLE

IMPROVEMENT LOCATION NO.	A	B	C	D**	E
1*	44"x32"	60"	60"	31.5'	25.73'
2*	--	--	--	--	31.08'
3	44"x32"	60"	60"	36.5'	35.59'
4	30"x18"	60"	36"	38.5'	37.47'
5*	36"	60"	72"	38.5'	35.16'

* NEW CULVERT INSTALLATION
EXISTING ELEVATION FROM
CULVERTS UNDER COUNTY ROAD.

** PROPOSED CONTROL ELEVATION
OF HARDENED LOW WATER
CROSSINGS WHICH MAY BE
ADJUSTED BASED ON 3 YEARS OF
MONITORING DATA.

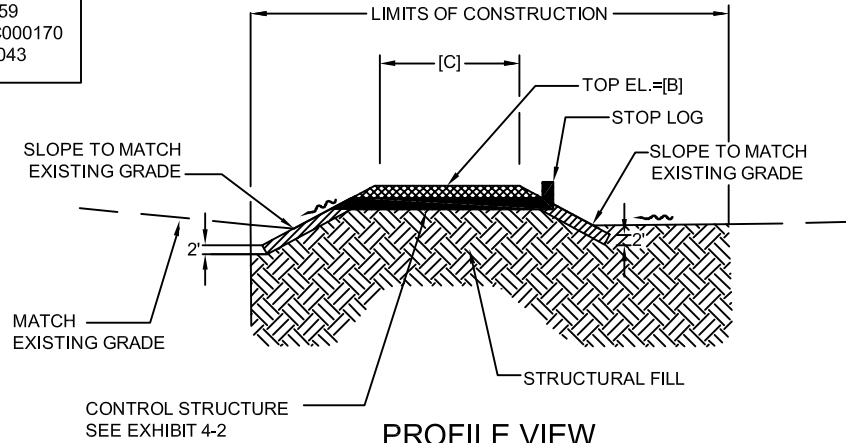
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DRAWN BY/EMP NO. WMB/1467	SCALE: N.T.S.			CLIENT: ST. JOE COMPANY
SHEET NUMBER: 9 OF 11	REVISION:			TITLE: DETAILS

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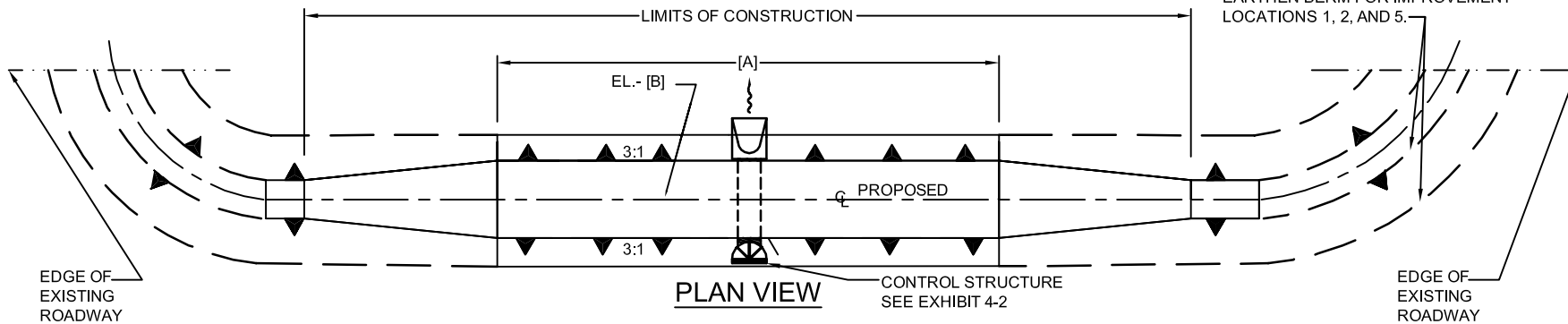
IMPROVEMENT LOCATION NO.	A	B*	C
1	30'	31.5'	12'
2	100'	37.0'	12'
3	30'	36.5'	12'
4	30'	38.5'	12'
5	30'	38.5'	12'



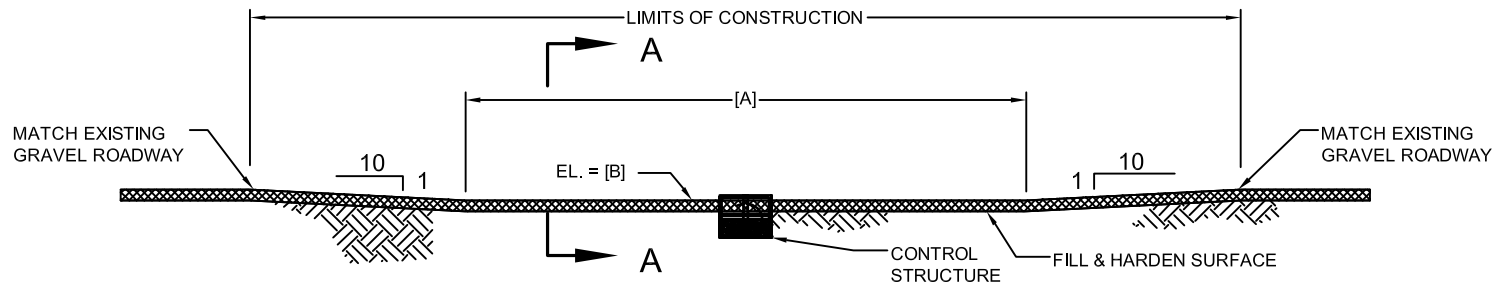
PROFILE VIEW

* PROPOSED CONTROL ELEVATION OF HARDENED LOW WATER CROSSINGS WHICH MAY BE ADJUSTED BASED ON 3 YEARS OF MONITORING DATA.

NOTE:
 IMPROVEMENTS WITH DASHED LINES ONLY APPLY TO CONSTRUCTION OF EARTHEN BERM FOR IMPROVEMENT LOCATIONS 1, 2, AND 5.



PLAN VIEW



ELEVATION VIEW

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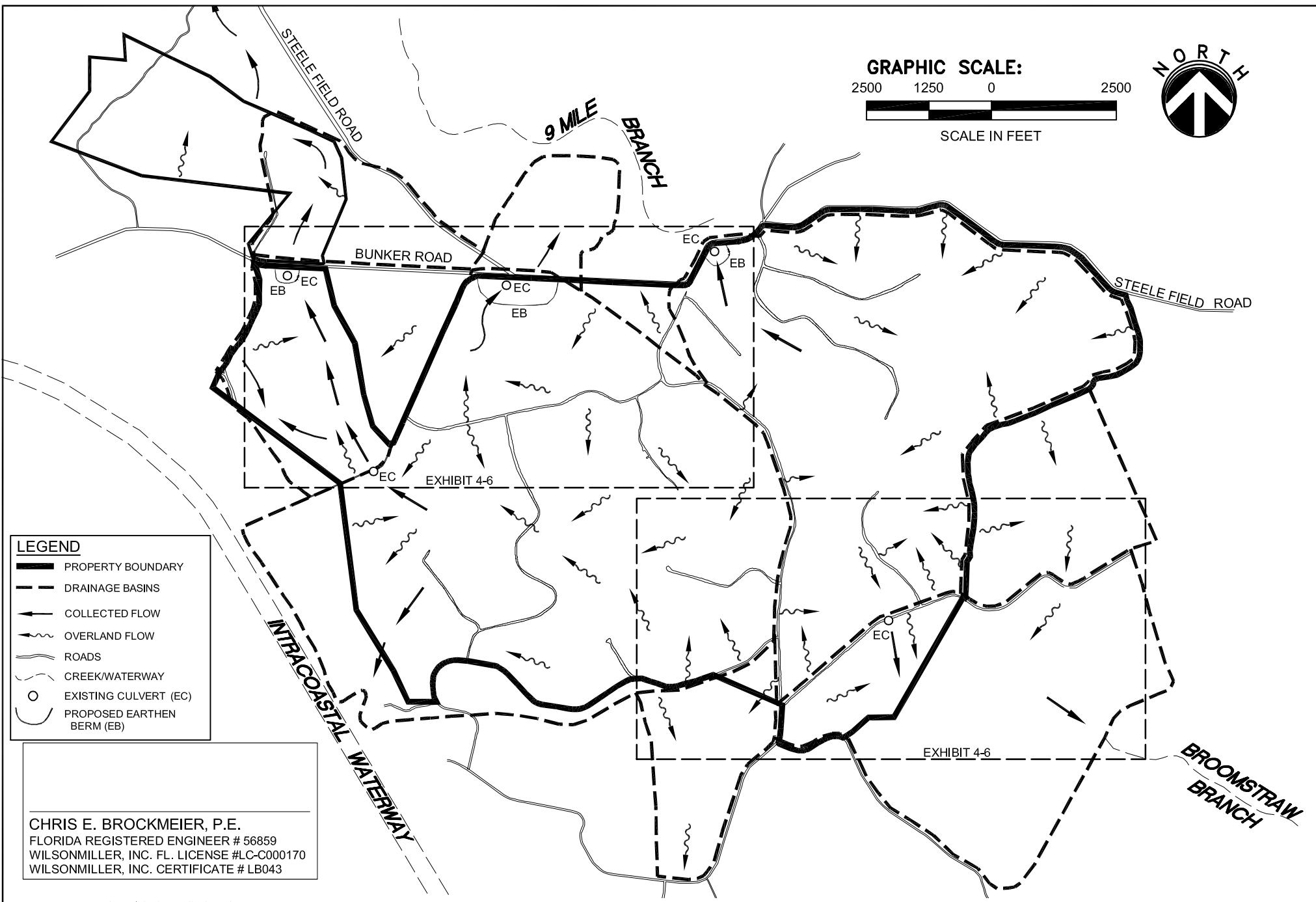
PROJECT NO. 04108-000-000	DATE: Feb. 2004
DRAWN BY/EMP NO. WMB/1467	SCALE: N.T.S.
SHEET NUMBER: 10 OF 11	REVISION:

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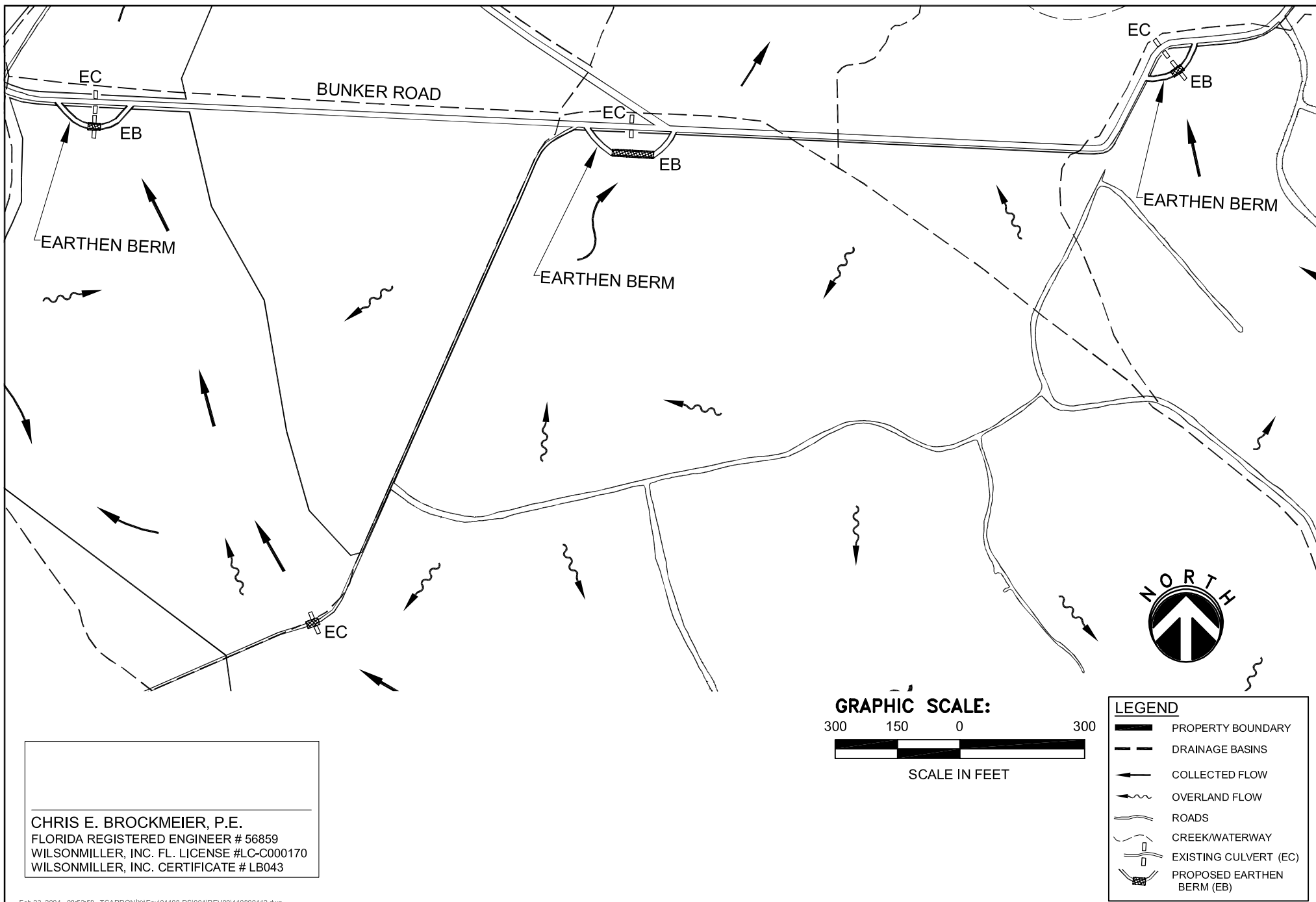
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EXHIBIT 4-3

PROJECT:	DEVIL'S SWAMP MITIGATION BANK
CLIENT:	ST. JOE COMPANY
TITLE:	TYPICAL LOW WATER CROSSING

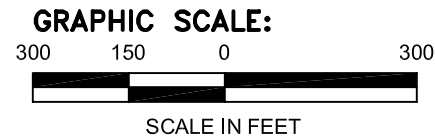
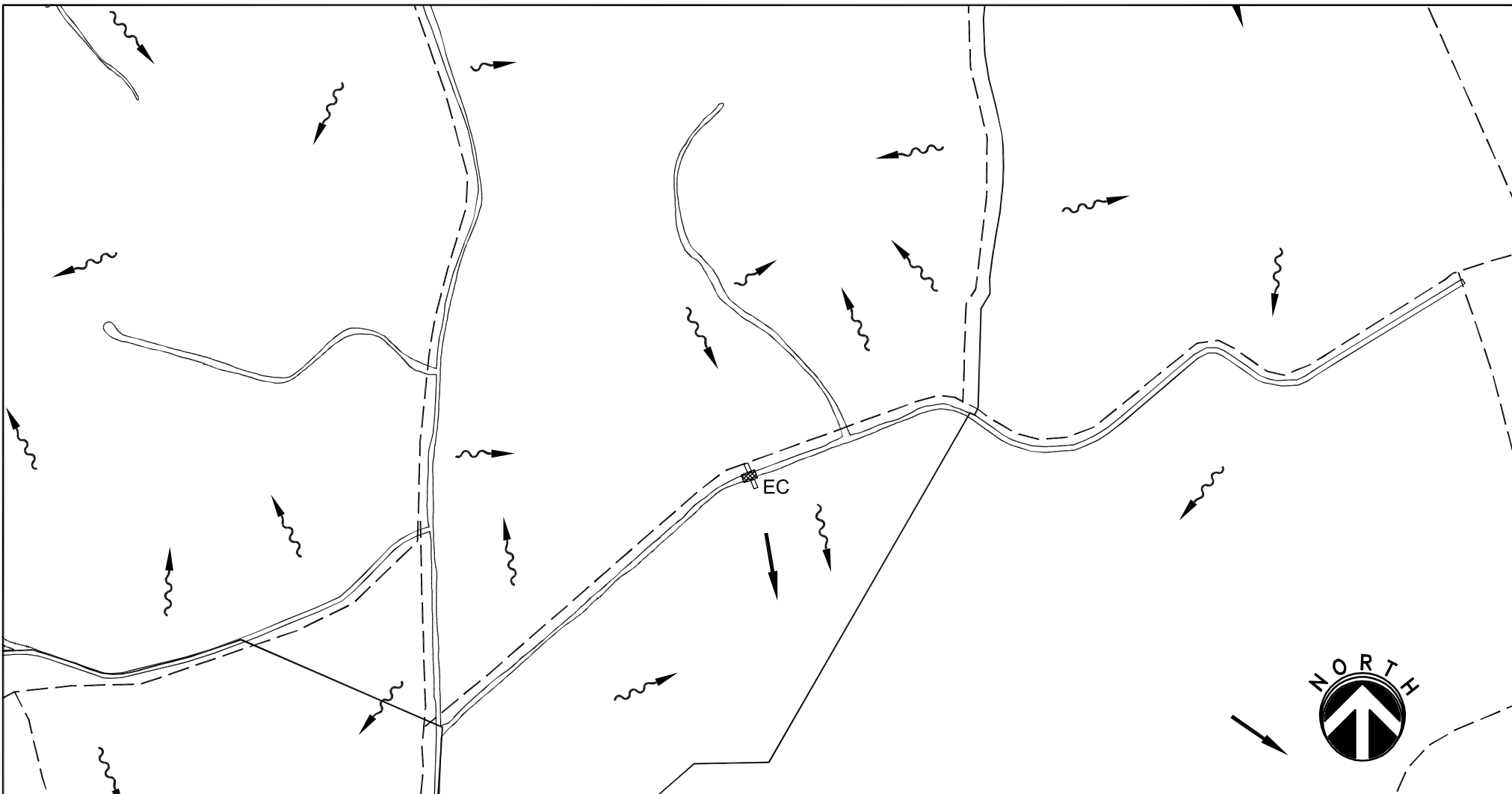


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PROJECT NO: 04108-000-000	DATE: Feb. 2004	 <small>Planners • Engineers • Ecologists • Surveyors • Landscape Architects • Transportation Consultants 1441 Madley Commerce Drive, Suite 101 • Tallahassee, Florida 32312 • 905-878-5001 • 905-878-5941 (F) • www.wilsonmiller.com</small>	EXHIBIT 4-5	PROJECT: DEVIL'S SWAMP MITIGATION BANK
DRAWN BY/EMP NO. WMB/1467	SCALE: 1"=300'			CLIENT: ST. JOE COMPANY
SHEET NUMBER:	REVISION:			TITLE: POSTCONDITION DRAINAGE FLOWS
OF				



LEGEND	
	PROPERTY BOUNDARY
	DRAINAGE BASINS
	COLLECTED FLOW
	OVERLAND FLOW
	ROADS
	CREEK/WATERWAY
	EXISTING CULVERT (EC)
	PROPOSED EARTHEN BERM (EB)

CHRIS E. BROCKMEIER, P.E.
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WILSONMILLER, INC. FL. LICENSE #LC-C000170
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PROJECT NO: 04108-000-000	DATE: Feb. 2004	 <small>Planners • Engineers • Ecologists • Surveyors • Landscape Architects • Transportation Consultants 1441 Madley Commerce Drive, Suite 101 • Tallahassee, Florida 32312 • 850-878-5001 • 850-878-5941 (F) • www.wilsonmiller.com</small>	EXHIBIT 4-6	PROJECT: DEVIL'S SWAMP MITIGATION BANK
DRAWN BY/EMP NO. WMB/1467	SCALE: 1"=300'			CLIENT: ST. JOE COMPANY
SHEET NUMBER:	REVISION:			TITLE: POSTCONDITION DRAINAGE FLOWS
OF				

ATTACHMENT B-10 – REFERENCES

- Ewel, K.C. 1990. Swamps. in Myers, R.L. and J.J. Ewel, eds. *Ecosystems of Florida*. University of Florida Press.
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- Turner, E., A. Redmond, and J. Zedler. 2001. *Count it by Acre or Function - Mitigation Adds up to Net Loss of Wetlands*. National Wetlands Newsletter 23:6. Environmental Law Institute, Washington, DC.
- United States Army Corps of Engineers (the Corps). 2002. Mitigation Plan Needs Checklist Army Corps of Engineers' Regulatory Guidance Letter for Wetlands and Interagency National Wetlands Mitigation Action Plan. December 27.
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- _____. Soil Conservation Service. 1984. Soil Survey of Walton County, Florida.

- _____. Soil Conservation Service. 1989. 26 ecological communities of Florida.
- _____. 1993. Bay County, Florida, Comprehensive Hydric Soils List. December 14.
- United States Fish and Wildlife Service (USFWS). 1987. Habitat Management Guidelines for the Bald Eagle in the Southeast Region. Third Revision. January.
- Wolfe, S.H., J.A. Reidenauer & D.B. Means. 1988. An Ecological Characterization of the Fla. Panhandle. USFWS Biological Report 88 (12); Minerals Management Service. OCS Study\MMS 88-0063; 277 pp.

ATTACHMENT B-11 – REAL-ESTATE PROVISIONS

DEED OF CONSERVATION EASEMENT

THIS DEED OF CONSERVATION EASEMENT is given this ____ day of _____, 20__, by THE ST. JOE COMPANY/ST. JOE TIMBERLAND COMPANY OF DELAWARE, L.L.C., having an address at 245 Riverside, Suite 500 Jacksonville, Florida 32202

(Grantor) to the [STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION] or [BOARD OF TRUSTEES OF THE INTERNAL IMPROVEMENT TRUST FUND OF THE STATE OF FLORIDA (BOARD OF TRUSTEES)], whose address is Department of Environmental Protection, Division of State Lands, 3900 Commonwealth Boulevard, Mail Station 130, Tallahassee, Florida 32399-3000 (Grantee). As used herein, the term Grantor shall include any and all heirs, successors or assigns of the Grantor, and all subsequent owners of the Property (as hereinafter defined) and the term Grantee shall include any successor or assignee of Grantee.

WITNESSETH

WHEREAS, the Grantor is the sole owner in fee simple of certain lands situated in _____ County, Florida, more specifically described in Exhibit A attached hereto and incorporated herein (Property);

WHEREAS, the Department and St. Joe executed an Ecosystem Management Agreement, dated _____, (Agreement), which authorizes certain activities which affect waters in or of the State of Florida;

WHEREAS, the Agreement requires that the Grantor preserve, enhance, or restore wetlands or uplands within specified mitigation areas; and

WHEREAS, Grantor grants this conservation easement as a condition of the Agreement issued by Grantee to offset or prevent adverse impacts to water quality and natural resources, such as fish, wildlife, and wetland or other surface water functions.

WHEREAS, the U.S. Army Corps of Engineers (Army Corps) General Permit No. _____(Corps Permit) authorizes certain activities in the waters of the United States and requires this conservation easement over the lands identified in Exhibit A as part of the mitigation for such activities;

WHEREAS The Army Corps is not authorized to hold conservation easements and the Grantee has agreed to hold the easement on behalf of the Corps;

NOW THEREFORE, in consideration of the above and the mutual covenants, terms, conditions and restrictions contained herein, together with other good and valuable consideration, the adequacy and receipt of which is hereby acknowledged, Grantor hereby voluntarily grants and conveys a perpetual conservation easement, as defined in Section 704.06, Florida Statutes, for and in favor of the Grantee upon the Property which

shall run with the land and be binding upon the Grantor, and shall remain in full force and effect forever.

The scope, nature and character of this conservation easement shall be as follows:

1. Purpose. The purpose of this conservation easement is to retain land or water areas in their natural, vegetative, hydrologic, scenic, open, agricultural or wooded condition and to retain such areas as suitable habitat for fish, plants or wildlife. Those wetland or upland areas included in the conservation easement which are to be enhanced or restored pursuant to the Agreement shall be retained and maintained in the enhanced or restored conditions required by the Agreement.

2. Rights of Grantee. To carry out this purpose, the following rights are conveyed to Grantee by this easement:

a. The right to take action to restore, preserve and protect the environmental value of the Property;

b. The right to prevent any activity on or use of the Property that is inconsistent with the terms and conditions of this conservation easement, and to require the restoration of areas or features of the Property that may be damaged by any activity inconsistent with the terms and conditions of this conservation easement.

c. The right to enter upon and inspect the Property in a reasonable manner and at reasonable times, including the right to use vehicles and all necessary equipment to determine if Grantor or its successors and assigns are complying with the covenants and prohibitions contained in this conservation easement; and

d. The right to enforce this conservation easement by injunction or proceed at law or in equity to enforce the provisions of this conservation easement and the covenants set forth herein, to prevent the occurrence of any of the prohibited activities hereinafter set forth, and the right to require Grantor to restore such areas or features of the Property that may be damaged by any inconsistent activity or use.

3. Prohibited Uses. The following activities and uses are expressly prohibited, except for restoration, enhancement, maintenance and monitoring activities allowed by the provisions of Section 4:

a. Construction or placing of buildings, roads, signs, billboards or other advertising, utilities, docks, or other structures on or above the ground;

b. Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste, or unsightly or offensive materials;

c. Removal or destruction of trees, shrubs, or other vegetation, except for timbering done in accordance with the St. Joe Forest and Wildlife Management Plan approved and on file with the Grantee at the time of the recording of this conservation

easement and for the purpose of enhancing or restoring wetlands or uplands in the mitigation area;

d. Planting or seeding of plants that are outside its natural range or zone of dispersal and has or is able to form self-sustaining, expanding, and free-living populations in a natural community with which it has not previously associated;

e. Exploration for or extraction of oil or gas, and excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface;

f. Surface use except for purposes that permit the land or water area to remain in its natural condition;

g. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation including, but not limited to, ditching, diking and fencing;

h. Acts or uses detrimental to such aforementioned retention of land or water areas;

i. Acts or uses detrimental to the preservation of the structural integrity or physical appearance of sites or properties of historical, architectural, archaeological, or cultural significance.

4. Authorized activities. The following activities on the Property are allowed:

a. Fire fighting or fire suppression activities;

b. Machine clearing of fire lines/fire breaks as part of controlled burn activities,
fire fighting, or fire suppression;

c. Installation of fences for land management or habitat protection purposes;

d. Removal or extermination of nuisance or exotic animal species;

e. Hunting of deer, quail and other indigenous animal species pursuant to properly issued hunting permits only where consistent with the St. Joe Hunt Plan approved by and on file with the Grantee at the time of the recording of this conservation easement;

f. Installation of signs for land management, facilitating passive recreation or habitat protection purposes;

g. Maintenance of unpaved nature trails; and

- h. Installation of interpretive signs for nature trails.
5. Reserved Rights. Grantor reserves all rights as owner of the Property, including the right to engage in uses of the Property that are not prohibited herein and which are not inconsistent with the terms and conditions of this conservation easement or any Department rule, criteria, and Agreement.
6. Public Access. No right of access by the general public to any portion of the Property is conveyed by this conservation easement.
7. Responsibilities of Parties. Grantor, its successors or assigns, shall take responsibility for any costs or liabilities related to the operation, upkeep or maintenance of the Property. In addition Grantee its successors or assigns, shall have no responsibility for any costs or liabilities related to the operation, upkeep or maintenance of the Property.
8. Taxes. Grantor, its successors or assigns, shall pay before delinquency any and all taxes, assessments, fees, and charges of whatever description levied nor assessed by competent authority on the Property, and shall furnish Grantee with satisfactory evidence of payment upon request
9. Liability. Grantee shall not assume any liability for any injury or damage to the person or property of Grantor or third parties which may occur on the Property, except to the extent caused by Grantee or its employees or agents. Neither Grantor, its successors or assigns, nor any person or entity claiming by or through Grantor its successors or assigns, shall hold Grantee liable for any damage or injury to person or personal property which may occur on the Property, except to the extent caused by Grantee or its employees or agents. Furthermore, the Grantor, its successors or assigns shall indemnify and hold harmless Grantee for all liability, any injury or damage to the person or property of third parties which may occur on the Property, except to the extent caused by Grantee or its employees or agents.
10. Hazardous Waste. Grantor covenants and represents that to the best of its knowledge no hazardous substance or toxic waste exists nor has been generated, treated, stored, used, disposed of, or deposited in or on the Property, and that there are not now any underground storage tanks located on the Property.
11. Enforcement Discretion. Enforcement of the terms, provisions and restrictions of this conservation easement shall be at the reasonable discretion of Grantee, and any forbearance on behalf of Grantee to exercise its rights hereunder in the event of any breach by Grantor, shall not be deemed or construed to be a waiver of Grantee's rights.
12. Venue and Enforcement Costs. Venue to enforce the terms of this conservation easement shall be in Leon County, Florida. In the event the Army Corps takes enforcement action, venue shall be in a state or federal court of competent jurisdiction. If the Grantee prevails in an enforcement action, it shall be entitled to recover the cost of

restoring the land to the natural vegetative and hydrologic condition existing at the time of execution of the conservation easement or to the vegetative and hydrologic condition required by the aforementioned Agreement.

13. Assignment of Rights. Grantee will hold this conservation easement exclusively for conservation purposes. Grantee will not assign its rights and obligations under this conservation easement except to another organization qualified to hold such interests under applicable state laws. The Army Corps reserves the right approve successor grantees for the purpose of meeting the continuing compensatory mitigation requirements of its permit or permits.

14. Recording in Land Records. Grantor shall record this conservation easement and any amendments hereto in a timely fashion in the Official Records of _____ County, Florida. Grantor shall pay all recording costs and taxes necessary to record this conservation easement in the public records.

15. Successors. The covenants, terms, conditions and restrictions of this conservation easement shall be binding upon, and inure to the benefit of the parties hereto and their respective personal representatives, heirs, successors and assigns and shall continue as a servitude running in perpetuity with the Property.

16. Notices. All notices, consents, approvals or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor-in-interest.

17. Severability. If any provision of this conservation easement or the application thereof to any person or circumstances is found to be invalid, the remainder of the provisions of this conservation easement shall not be affected thereby, as long as the purpose of the conservation easement is preserved.

18. Alteration or Revocation. This conservation easement may be amended, altered, released or revoked only by Agreement modification as necessary and written agreement between the parties hereto or their heirs, assigns or successors-in-interest, which shall be filed in the public records in _____ County.

19. Controlling Law. The interpretation and performance of this conservation easement shall be governed by the laws of the State of Florida.

20. Rights of U.S. Army Corps of Engineers. Where a corresponding general permit is issued by the U.S. Army Corps of Engineers, the Army Corps shall have all the rights of grantee under this easement. The Army Corps shall be a party to a modification, alteration, release, or revocation of the conservation easement, and shall review and approve as necessary any additional structures or activities that require approval by the Grantee.

21. Limitation. This provision shall not be construed to entitle Grantee to bring any action against Grantor for any injury to or change in the property resulting from natural

causes beyond Grantor's control including, without limitation, fire, flood, storm and earth movement, or from any necessary action taken by Grantor under emergency conditions to prevent, abate or mitigate significant injury to the property or to persons resulting from such causes.

TO HAVE AND TO HOLD unto Grantee forever. The covenants, terms, conditions, restrictions and purpose imposed with this conservation easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with Property.

Grantor hereby covenants with said Grantee that Grantor is lawfully seized of Property in fee simple; that the Property is free and clear of all encumbrances that inconsistent with the terms of this conservation easement and all mortgages have been joined or subordinated; that Grantor has good right and lawful authority to convey conservation easement; and that it hereby fully warrants and defends the title to conservation easement hereby conveyed against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, the Grantor has executed this Conservation Easement on the day and year first above written.

Signed, sealed and delivered
in our presence as witnesses:

Print Name:

By: _____
Print Name: _____
Title: _____

Print Name:

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20__, by _____ as _____ of the (corporation's name) _____ He/She is personally known to me or has produced _____ as identification.

(SEAL)

Notary Public Signature

Printed/Typed Name of Notary

ATTACHMENT B-12 – FINANCIAL ASSURANCE

STATE OF FLORIDA

MITIGATION BANK PERFORMANCE BOND
TO DEMONSTRATE CONSTRUCTION AND IMPLEMENTATION FINANCIAL ASSURANCE

Date bond executed: _____

Period of coverage: _____

Effective date: _____

Principal:

Legal Name and Business Address of Mitigation Banker

Type of Organization: _____ Individual
_____ Joint Venture
_____ Partnership
_____ Corporation

State of Incorporation: _____

Surety(ies): _____
Name(s) and Business Address(es)

Scope of coverage: Construction and implementation of the _____ Mitigation Bank pursuant to the requirements of permit number _____ issued by the Florida Department of Environmental Protection including the plans approved by said permit.

Total penal sum of bond: _____

Surety's bond number: _____

Know All Persons By These Presents, that we, the Principal and Surety(ies) hereto are firmly bound to the Florida Department of Environmental Protection in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Sureties are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be full amount of the penal sum.

WHEREAS, said Principal is required, under Section 373.4136, Florida Statutes, as amended, to have a permit in order to construct, implement and manage the Mitigation Bank identified above, and

WHEREAS, said Principal is required by Section 373.4136, Florida Statutes, and the administrative rules of the Department to provide financial assurance for construction and implementation of the Mitigation Bank as a condition of the permit(s) as further described in the scope of coverage above, and

WHEREAS, said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

NOW, THEREFORE, the conditions of the obligation are such that if the Principal shall faithfully construct and implement the _____ Mitigation Bank, for which this bond guarantees construction and implementation, as required by Department permit number _____ and the plans approved by such permit, as such permit and plans may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

Or, if the Principal shall provide alternate financial assurance, as specified in the administrative rules of the Department, and obtain the Department's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Department from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

Such obligation does not apply to any of the following:

- (a) Any obligation of (insert banker's name) under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;
- (b) Bodily injury to an employee of (insert banker's name) arising from, and in the course of, employment by (insert banker's name);
- (c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;
- (d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by (insert banker's name) that is not the direct result of a construction or implementation activity for the _____ Mitigation Bank required pursuant to Department permit number _____;
- (e) Bodily injury or property damage for which (insert banker's name) is obligated to pay damages by reason of the assumption of liability in a contract or agreement.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by the Secretary of the Department that the Principal has been found in violation of the requirements of permit number _____ by failing to perform the construction and implementation activities for the _____ Mitigation Bank for which this bond guarantees performance, the Surety(ies) shall, within 60 days of receiving such notice, either perform such construction and implementation in accordance with the permit and other permit requirements and pursuant to the written directions of the Department, or place the bond amount guaranteed for the _____ Mitigation Bank (the total penal sum of this bond) into the standby trust fund as directed by the Department.

Upon notification by the Secretary of the Department that the Principal has failed to provide alternate financial assurance and obtain written approval of such assurance from the Department during the 90 days following receipt by both the Principal and the Department of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the _____ Mitigation Bank (the total penal sum of this bond) into the standby trust fund as directed by the Department.

The Surety(ies) hereby waive(s) notification of amendments to the _____ Mitigation Bank plans, permits, applicable laws, statutes, rules, and regulations and agree(s) that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum shown on the face of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and the Department; provided, however that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Department, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies); provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Department.

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond every two years so that it guarantees increased or decreased construction and implementation cost provided that no decrease in the penal sum takes place without the written permission of the Department.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this Performance Bond is substantially similar to Form No. 62-342.900(1) which form has been incorporated by reference as an administrative rule in section 62-342.900 of the Florida Administrative Code.

PRINCIPAL

Signature

Type Name and Title

Corporate Seal

CORPORATE SURETY(IES)

For each co-surety provide the following

Name and Address

State of Incorporation

Liability Limit \$ _____

Signature

Type Name and Title

Corporate Seal

STATE OF FLORIDA

MITIGATION BANK STANDBY TRUST FUND AGREEMENT
TO DEMONSTRATE CONSTRUCTION/IMPLEMENTATION FINANCIAL ASSURANCE

TRUST AGREEMENT, the "Agreement," entered into as of _____ by and
Date
between _____
Name of Mitigation Banker
a _____ (the Grantor,) Name of State Insert "corporation, partnership, association, or proprietorship",
and _____
Name and Address of Corporate Trustee
_____ (the Trustee.)
Insert "incorporated in the State of ____" or "a national bank"

WHEREAS, Grantor is the owner of certain real property in _____ County, Florida, and has received from the Florida Department of Environmental Protection ("Department") that certain permit number _____ ("Mitigation Bank Permit") which authorizes the construction and implementation of the _____ Mitigation Bank;

WHEREAS, the Department, a Florida agency created under section 20.255 of the Florida Statutes, has established certain regulations applicable to the Grantor, requiring that a Mitigation Bank permittee shall provide assurance that funds will be available when needed for corrective action if Grantor fails to construct and implement that Mitigation Bank,

WHEREAS, the Grantor has elected to establish _____
[insert either a "surety bond" or "letter of credit"]
to provide all or part of such financial assurance for the _____ Mitigation Bank identified herein and is required to establish a standby trust fund able to accept payments from that instrument,

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the _____ who enters into
[insert Mitigation Banker's name]
this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means _____ the Trustee who
[insert trustee's name]
enters into this Agreement and any successor Trustee.

(c) The term "Department " means the Florida Department of Environmental Protection, a public entity in the State of Florida or any successor thereof.

(d) The term "investment obligations" means:

(i) United States of America Treasury and Federal agency securities or other obligations issued or unconditionally guaranteed as to principal and interest by the United States of America, in each case with maturities of not more than one year from the date acquired;

(ii) Demand deposits, certificates of deposit, bankers acceptances and time deposits of any bank organized or licensed to conduct a banking business under the laws of the United States of America or any state

thereof having capital, surplus and undivided profits of not less than \$100,000,000, and whose deposits are insured by the Federal Deposit Insurance Corporation or any successor thereof;

(iii) Securities of entities incorporated under the laws of the United States of America or any State thereof commonly known as "commercial paper" that at the time of purchase have been rated and the ratings for which are not less than "P1" if rated by Moody's Investors Services, Inc., and not less than "A1" if rated by Standard and Poor's Corporation, in each case with maturities of not more than one year from the date acquired;

(iv) State or local government securities, which debt obligations at the time of purchase are rated investment grade by one or more nationally recognized rating agencies, in each case with maturities of not more than one year from the date acquired;

(v) Repurchase obligations with any banking or financial institution described in clause (ii) above which are fully collateralized at all times by any of the foregoing obligations;

(vi) Corporate fixed income securities whose ratings at the time of purchase are rated not less than "A-" if rated by Standard and Poor's Corporation and "A3" if rated by Moody's Investors Services, Inc. in each case with maturities of not more than one year from the date acquired; and

(vii) Investments in any one or more professionally managed money market funds generally regarded as investment grade with a portfolio size of not less than \$100,000,000.

Section 2. Identification of Cost Estimates. This Agreement pertains to the cost estimate for construction and implementation of the _____ Mitigation Bank identified in Attachment A hereto.

Section 3. Standby Trust. This trust shall remain dormant until funded with the proceeds from the financial mechanism listed on Attachment "A". The Trustee shall have no duties or responsibilities beyond safekeeping this Document. Upon funding this trust shall become active and be administered pursuant to the terms of this instrument.

Section 4. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund (the Fund), for the benefit of the Department. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as a standby to receive payments and shall not consist of any property. Payments made by the Grantor pursuant to the Department's instructions are transferred to the Trustee and referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST for the benefit of the Department, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department.

Section 5. Initial Payments Comprising the Fund. _____ Initial Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee and shall consist initially of proceeds from the _____ identified in

Insert "Letter of Credit" or "Surety Bond"
Attachment A hereto.

Section 6. Additional Payments to the Fund. After the initial deposit of principal into the Fund, the Grantor shall increase the principal if so required by the Department pursuant to its administrative regulations and the requirements of the Mitigation Bank Permit. Such deposit may be in cash or securities acceptable under Section 1(d) hereof.

Section 7. Payment for Completing Construction and Implementation. The Trustee shall make payments from the Fund as the Secretary of the Department, or the Secretary's designee, shall direct in writing to provide for the payment of the costs of completing construction and implementation of the Mitigation Bank covered by this

Agreement pursuant to the requirements of the Mitigation Bank permit. The Trustee shall reimburse persons specified by the Department from the Fund for construction and implementation expenditures in such amounts as the Department shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the Department specifies in writing as unnecessary or excessive corpus for purposes of the trust. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

The Fund may not be drawn upon to cover any of the following:

- (a) Any obligation of Grantor under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;
- (b) Bodily injury to an employee of Grantor arising from, and in the course of employment by Grantor;
- (c) Bodily injury or non-realty property damage arising from the ownership, maintenance, use, or entrustment to others by Grantor of any aircraft, motor vehicle, or watercraft;
- (d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by Grantor that is not the direct result of the construction and implementation of the Mitigation Bank; or
- (e) Bodily injury or property damage for which Grantor is obligated to pay damages by reason of the assumption of liability in a contract or agreement.

Section 8. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund in one or more investment obligations and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge its duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- (a) Securities or other obligations of the Grantor, or any other owner or operator of the Mitigation Bank, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a state government;
- (b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or a state government; and
- (c) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 9. Commingling and Investment. The Trustee is expressly authorized in its discretion:

- (a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and
- (b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 10. Express Power of Trustee. Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

- (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;
- (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;
- (c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;
- (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or a State government; and
- (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 11. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 12. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Department a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the fund. The failure of the Grantor or the Department to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 13. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 14. Trustee Compensation. Grantor shall pay the Trustee any necessary fees for services rendered. Where the Grantor is no longer in existence, the Trustee is authorized to charge against the Trust its published Trust fee schedule in effect at the time services are rendered. However, all Trustee compensation charged against the Trust shall be paid from trust income, unless the Department authorizes in writing payment from the trust principal.

Section 15. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee, the successor is approved by the Department, and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Department may nominate a successor. If the Department does not act, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Department, and

the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 14.

Section 16. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by _____ or such other designees as the Grantor may designate by amendment to this agreement. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Department to the Trustee shall be in writing, signed by the Department's Secretary, or the Secretary's designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Department, except as provided for herein.

Section 17. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Department, or by the Trustee and the Department if the Grantor dies, is legally incapacitated, is administratively or judicially dissolved or otherwise ceases to exist.

Section 18. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 17, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Department, or by the Trustee and the Department, if the Grantor dies, is legally incapacitated, is administratively or judicially dissolved or otherwise ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered pursuant to the written agreement terminating the trust or, where Grantor has ceased to exist, then to the Department.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Florida.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written.

Signature of Grantor

Signature of Trustee

Title

Title

Attest:

Attest:

Title

Title

Seal

Seal

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 199_, by _____, the _____ of _____, a Florida corporation, on behalf of the corporation. Such person did not take an oath and:

_____ is/are personally known to me
_____ produced a current Florida driver's license as identification
_____ produced _____ as identification

Signature of Notary

(Notary Seal)

Name of Notary (typed, printed or stamped)
Commission number (if not legible on seal) _____
My commission expires: (if not legible on seal) _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 199_, by _____, the _____ of _____ Bank, on behalf of the corporation. Such person did not take an oath and :

_____ is/are personally known to me
_____ produced a current Florida driver's license as identification
_____ produced _____ as identification

Signature of Notary

(Notary Seal)

Name of Notary (typed, printed or stamped)
Commission number (if not legible on seal) _____
My commission expires: (if not legible on seal) _____

STATE OF FLORIDA

MITIGATION BANK TRUST FUND AGREEMENT
TO DEMONSTRATE PERPETUAL MANAGEMENT FINANCIAL ASSURANCE

TRUST AGREEMENT, the "Agreement," entered into as of _____ by and
Date
between _____
Name of Mitigation Banker
a _____ (the Grantor,) Name of State Insert "corporation, partnership, association, or proprietorship",
and _____
Name and Address of Corporate Trustee
_____ (the Trustee.)
Insert "incorporated in the State of ____" or "a national bank"

WHEREAS, Grantor is the owner of certain real property in _____ County, Florida, and has received from the Florida Department of Environmental Protection ("Department") that certain permit number _____ ("Mitigation Bank Permit") which authorizes the construction and implementation of the _____ Mitigation Bank;

WHEREAS, the Department, a Florida agency created under section 20.255 of the Florida Statutes, has established certain regulations applicable to the Grantor, requiring that a Mitigation Bank permittee shall provide assurance that funds will be available when needed for corrective action if Grantor fails to perpetually manage that Mitigation Bank pursuant to the requirements of the Mitigation Bank Permit,

WHEREAS, the Grantor has elected to establish this trust fund agreement to provide such financial assurance for the _____ Mitigation Bank identified herein,

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the _____ who enters into this
[insert Mitigation Banker's name]
Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means/ _____ the Trustee who
[insert trustee's name]
enters into this Agreement and any successor Trustee.

(c) The term "Department" means the Florida Department of Environmental Protection a public entity in the State of Florida or any successor thereof.

(d) The term "investment obligations" means:

(i) United States of America Treasury and Federal agency securities or other obligations issued or unconditionally guaranteed as to principal and interest by the United States of America, in each case with maturities of not more than one year from the date acquired;

(ii) Demand Deposits, certificates of deposit, bankers acceptances and time deposits of any bank organized or licensed to conduct a banking business under the laws of the United States of America or any state thereof having capital, surplus and undivided profits of not less than \$100,000,000, and whose deposits are insured by the Federal Deposit Insurance Corporation or any successor thereof;

(iii) Securities of entities incorporated under the laws of the United States of America or any State thereof commonly known as “commercial paper” that at the time of purchase have been rated and the ratings for which are not less than “P1” if rated by Moody’s Investors Services, Inc., and not less than “A1” if rated by Standard and Poor’s Corporation, in each case with maturities of not more than one year from the date acquired;

(iv) State or local government securities, which debt obligations at the time of purchase are rated investment grade by one or more nationally recognized rating agencies, in each case with maturities of not more than one year from the date acquired;

(v) Repurchase obligations with any banking or financial institution described in clause (ii) above which are fully collateralized at all times by any of the foregoing obligations;

(vi) Corporate fixed income securities whose ratings at the time of purchase are rated not less than “A-” if rated by Standard and Poor’s Corporation and “A3” if rated by Moody’s Investors Services, Inc. in each case with maturities of not more than one year from the date acquired; and

(vii) Investments in any one or more professionally managed money market funds generally regarded as investment grade with a portfolio size of not less than \$100,000,000.

Section 2. Identification of Cost Estimates. This Agreement pertains to the cost estimate for perpetual management of the _____ Mitigation Bank identified in Attachment A hereto.

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund (the Fund), for the benefit of the Department (hereafter sometimes referred to as the “Beneficiary”) The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established by the Grantor’s deposit of \$_____ into the Fund. Such monies and other monies subsequently placed in the Fund are referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, for the benefit of the Department as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department.

Section 4. Additional Payments Into the Fund. After the initial deposit of principal into the Fund, the Grantor shall increase the principal if so required by the Department pursuant to its administrative regulations and the requirements of the Mitigation Bank Permit. Such deposit may be in cash or securities acceptable under Section 1(d) hereof.

Section 5. Payment for Undertaking Perpetual Management Activities. The Trustee shall make payments from the Fund as the Grantor or the Secretary of the Department, or the Secretary’s designee, shall direct in writing to provide for the payment of the costs of undertaking activities to provide for the perpetual management of the Mitigation Bank covered by this Agreement pursuant to the requirements of the Mitigation Bank Permit. The Trustee shall reimburse persons specified by the Grantor or the Department from the Fund for perpetual management expenditures in such amounts as the Grantor or the Department shall direct in writing. In the event of conflicting instructions from the Grantor and the Department, the Department’s instructions shall prevail. The Trustee shall not make any payments from the principal of the Fund pursuant to the Grantor’s direction without the Department’s written consent. The Trustee shall cease honoring Grantor’s instructions if so directed by the Department in writing. In addition, the Trustee shall refund to the Grantor such amounts as the Department specifies in writing as unnecessary or excessive corpus for purposes of the trust. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

The Fund may not be drawn upon to cover any of the following:

- (a) Any obligation of Grantor under a workers' compensation, disability benefits, or unemployment compensation law or other similar law:
- (b) Bodily injury to an employee of Grantor arising from, and in the course of employment by Grantor:
- (c) Bodily injury or non-realty property damage arising from the ownership, maintenance, use, or entrustment to others by Grantor of any aircraft, motor vehicle, or watercraft:
- (d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by Grantor that is not the direct result of the construction and implementation of the Mitigation Bank;
- (e) Bodily injury or property damage for which Grantor is obligated to pay damages by reason of the assumption of liability in a contract or agreement.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund in one or more investments and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge its duties with respect to the trust fund solely in the interest of the Department and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- (a) Securities or other obligations of the Grantor, or any other owner or operator of the Mitigation Bank, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a state government;
- (b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or a state government; and
- (c) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

- (a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and
- (b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Power of Trustee. Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

- (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;
- (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

- (c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;
- (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or a State government; and
- (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trust shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Department a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the fund. The failure of the Grantor or the Department to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. Grantor shall pay the Trustee any necessary fees for services rendered. Where the Grantor is no longer in existence, the Trustee is authorized to charge against the Trust its published Trust fee schedule in effect at the time services are rendered. However, all Trustee compensation charged against the Trust shall be paid only from trust income unless the Department authorizes payment from the trust principal in writing.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee, the successor is approved by the Department, and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Department may nominate a successor. If the Department does not act, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Department, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 12.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by _____ or such other designees as the Grantor may designate by amendment to this agreement. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Department to the Trustee shall be in writing,

signed by the Department's Secretary, or the Secretary's designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Department, except as provided for herein.

Section 15. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Department, or by the Trustee and the Department if the Grantor dies, is legally incapacitated, is administratively or judicially dissolved or otherwise ceases to exist.

Section 16. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 15, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Department, or by the Trustee and the Department, if the Grantor dies, is legally incapacitated, is administratively or judicially dissolved or otherwise ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered pursuant to the written agreement terminating the trust or where Grantor has ceased to exist, then to the Department.

Section 17. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 18. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Florida.

Section 19. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written.

Signature of Grantor

Signature of Trustee

Title

Title

Attest:

Attest:

Title

Title

Seal

Seal

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 199_, by _____, the _____ of _____, a Florida corporation, on behalf of the corporation. Such person did not take an oath and:

_____ is/are personally known to me
_____ produced a current Florida driver's license as identification
_____ produced _____ as identification

Signature of Notary

(Notary Seal)

Name of Notary (typed, printed or stamped)
Commission number (if not legible on seal) _____
My commission expires: (if not legible on seal) _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 199_, by _____, the _____ of _____ Bank, on behalf of the corporation. Such person did not take an oath and :

_____ is/are personally known to me
_____ produced a current Florida driver's license as identification
_____ produced _____ as identification

Signature of Notary

(Notary Seal)

Name of Notary (typed, printed or stamped)
Commission number (if not legible on seal) _____
My commission expires: (if not legible on seal) _____

STATE OF FLORIDA

MITIGATION BANK STANDBY TRUST FUND AGREEMENT
TO DEMONSTRATE PERPETUAL MANAGEMENT FINANCIAL ASSURANCE

TRUST AGREEMENT, the "Agreement," entered into as of _____ by and
Date
between _____
Name of Mitigation Banker
a _____ (the Grantor,) Name of State Insert "corporation, partnership, association, or proprietorship",
and _____
Name and Address of Corporate Trustee
_____ (the Trustee.)
Insert "incorporated in the State of ____" or "a national bank"

WHEREAS, Grantor is the owner of certain real property in _____ County, Florida, and has received from the Florida Department of Environmental Protection ("Department ") that certain permit number 4- _____ ("mitigation bank permit") which authorizes the construction and implementation of the _____ Mitigation Bank;

WHEREAS, the Department , a Florida public entity created under Chapter 373, Florida Statutes, has established certain regulations applicable to the Grantor, requiring that a mitigation bank permittee shall provide assurance that funds will be available when needed for corrective action if Grantor fails to perpetually manage that mitigation bank pursuant to the requirements of the mitigation bank permit,

WHEREAS, the Grantor has elected to establish _____
[insert either a "surety bond" or "letter of credit"]
to provide the perpetual management financial assurance for the _____ Mitigation Bank identified herein and is required to establish a standby trust fund able to accept payments from that instrument,

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means _____ the who enters into this Agreement and
[insert mitigation banker's name]
any successors or assigns of the Grantor.

(b) The term "Trustee" means _____ the Trustee who enters into this Agreement
[insert trustee's name]
and any successor Trustee.

(c) The term "Department " means the Florida Department of Environmental Protection a public entity in the State of Florida or any successor thereof.

(d) The term "investment obligations" means:

(i) United States of America Treasury and Federal agency securities or other obligations issued or unconditionally guaranteed as to principal and interest by the United States of America, in each case with maturities of not more than one year from the date acquired;

(ii) Demand deposits, certificates of deposit, bankers acceptance and time deposits of any bank organized or licensed to conduct a banking business under the laws of the United States of America or any state thereof having capital, surplus and undivided profits of not less than \$100,000,000, and whose deposits are insured by the Federal Deposit Insurance Corporation or any successor thereof;

(iii) Securities of entities incorporated under the laws of the United States of America or any State thereof commonly known as "commercial paper" that at the time of purchase have been rated and the ratings for which are not less than "P1" if rated by Moody's Investors Service, Inc., and not less than "A1" if rated by Standard and Poor's Corporation, in each case with maturities of not more than one year from the date acquired;

(iv) State or local government securities, which debt obligations at the time of purchase are rated investment grade by one or more nationally recognized rating agencies, in each case with maturities of not more than one year from the date acquired;

(v) Repurchase obligation with any banking or financial institution described in clause (ii) above which are fully collateralized at all times by any of the foregoing obligations;

(vi) Corporate fixed income securities whose ratings at the time of purchase are rated not less than "A-" if rated by Standard and Poor's Corporation and "A3" if rated by Moody's Investors Service, Inc. in each case with maturities of not more than one year from the date acquired; and (vii) Investments in any one or more professionally managed money market funds generally regarded as investment grade with a portfolio size of not less than \$100,000,000.

Section 2. Identification of Cost Estimates. This Agreement pertains to the cost estimate for perpetual management of the _____ Mitigation Bank identified in Attachment A hereto.

Section 3. Standby Trust. This trust shall remain dormant until funded with the proceeds from the financial mechanism listed on Attachment "A". The Trustee shall have no duties or responsibilities beyond safekeeping this document. Upon funding this trust shall become active and be administered pursuant to the terms of this instrument.

Section 4. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund (the Fund), for the benefit of the Department (hereafter sometimes referred to as the "Beneficiary") The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as a standby to receive payments and shall not consist of any property. Payments made by the Grantor pursuant to the Department's instructions are transferred to the Trustee and referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, for the benefit of the Department as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department.

Section 5. Initial Payments Comprising the Fund. Initial payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee and shall consist solely of proceeds from the _____ identified in

[Insert "Letter of Credit" or "Surety Bond"]

Attachment A hereto.

Section 6. Additional Payments Into the Fund. After the initial deposit of principal into the Fund, the Grantor shall increase the principal if so required by the Department pursuant to its administrative regulations and the requirements of the mitigation bank permit. Such deposit may be in cash or Securities acceptable under Section 1(d) hereof.

Section 7. Payment for Undertaking Perpetual Management Activities. The Trustee shall make payments from the Fund as the Secretary of the Department or the Secretary's designee shall direct in writing, to provide for the payment of the costs of undertaking activities to provide for the perpetual management of the mitigation bank covered by this Agreement pursuant to the requirements of the mitigation bank permit. The Trustee shall reimburse persons specified by the Department from the Fund for perpetual management expenditures in such amounts as the Department shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the

Department specifies in writing as unnecessary or excessive corpus for purposes of the trust. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

The Fund may not be drawn upon to cover any of the following:

- (a) Any obligation of Grantor under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;
- (b) Bodily injury to an employee of Grantor arising from, and in the course of employment by Grantor.
- (c) Bodily injury or non-realty property damage arising from the ownership, maintenance, use, or entrustment to others by Grantor of any aircraft, motor vehicle, or watercraft;
- (d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by Grantor that is not the direct result of the construction and implementation of the mitigation bank;
- (e) Bodily injury or property damage for which Grantor is obligated to pay damages by reason of the assumption of liability in a contract or agreement.

Section 8. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund in one or more investments and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge its duties with respect to the trust fund solely in the interest of the Department and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- (a) Securities or other obligations of the Grantor, or any other owner or operator of the mitigation bank, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a state government;
- (b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or a state government; and
- (c) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 9. Commingling and Investment. The Trustee is expressly authorized in its discretion:

- (a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and
- (b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 10. Express Power of Trustee. Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

- (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

- (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;
- (c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;
- (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or a State government; and
- (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 11. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 12. Annual Valuation. The Trust shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Department a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the fund. The failure of the Grantor or the Department to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 13. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 14. Trustee Compensation. Grantor shall pay the Trustee any necessary fees for services rendered. Where the Grantor is no longer in existence, the Trustee is authorized to charge against the Trust its published Trust fee schedule in effect at the time services are rendered. However, all Trustee compensation charged against the Trust shall be paid from trust income unless the Department authorizes payment from the trust principal in writing.

Section 15. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee, the successor is approved by the Department, and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Department may nominate a successor. If the Department does not act, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Department, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 12.

Section 16. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by _____ or such other designees as the Grantor may designate by amendment

to this agreement. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Department to the Trustee shall be in writing, signed by the Department's Secretary, or the Secretary's designee, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Department, except as provided for herein.

Section 17 Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Department, or by the Trustee and the Department if the Grantor dies, is legally incapacitated, is administratively or judicially dissolved or otherwise ceases to exist.

Section 18. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 15, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Department, or by the Trustee and the Department, if the Grantor dies, is legally incapacitated, is administratively or judicially dissolved or otherwise ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered pursuant to the written agreement terminating the trust or, where Grantor has ceased to exist, then to the Department.

Section 19. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 20. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Florida.

Section 21. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written.

Signature of Grantor

Signature of Trustee

Title

Title

Attest:

Attest:

Title

Title

Seal

Seal

STATE OF FLORIDA
COUNTY OF _____

Compensatory Mitigation Plan Documentation
Devils Swamp Mitigation Bank

Page 121

The foregoing instrument was acknowledged before me this _____ day of _____, 199_, by _____, the _____ of _____, a Florida corporation, on behalf of the corporation. Such person did not take an oath and:

_____ is/are personally known to me
_____ produced a current Florida driver's license as identification
_____ produced _____ as identification

Signature of Notary

(Notary Seal)

Name of Notary (typed, printed or stamped)
Commission number (if not legible on seal) _____
My commission expires: (if not legible on seal) _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 199_, by _____, the _____ of _____ Bank, on behalf of the corporation. Such person did not take an oath and :

_____ is/are personally known to me
_____ produced a current Florida driver's license as identification
_____ produced _____ as identification

Signature of Notary

(Notary Seal)

Name of Notary (typed, printed or stamped)
Commission number (if not legible on seal) _____
My commission expires: (if not legible on seal) _____

ATTACHMENT A-13 – HUNTING LEASE CONDITIONS

- 1) Hunting leases will be reviewed every two years to assure that activities are not contrary to the overall mitigation bank goals. Hunting is being allowed because of the stewardship history and security benefits exhibited by the hunt Clubs. These conditions are tied into the Mitigation Bank Security Plan. It is expected that hunt club members shall function as the primary security apparatus in place for this area. Conditions are subject to modification pending evaluation of bi-annual reviews.
- 2) Hunting leases authorize access for hunt club members and their supervised guests for hunting, fishing and security checks only. Hunting pressure is limited to one hunter per 150 acres. Low intensity and low frequency visitation by individuals not associated with the hunt lease that would not negatively affect the integrity of the mitigation bank project may occur.
- 3) All club members and their guest must abide by all State and Federal laws and regulations regarding the taking of fish and wildlife. Additional restrictions on the taking and reporting of game species are specified below:
 - a) Hunting is restricted to the following species:
 1. White-tailed deer
 2. Feral hog
 3. Wild turkey
 4. Gray squirrel
 5. Mourning and white-winged dove
 6. Coyote

Only these species may be hunted. No other game or non-game species may be hunted, taken, harassed or otherwise disturbed. This applies to all other species including reptiles and amphibians.
 - b) All leases are required to participate in a Quality Deer Management program that protects young bucks. Harvest regulations require bucks to have at least one branched antler to be legal to take.
 - c) Leases must participate in the FWC antlerless deer program.
 - d) The use of dogs to hunt deer and hogs is authorized during day light hours only. All dogs are required to be caught and removed from the area by the end of each day.
 - e) Only adult male turkeys are legal to take.
 - f) There is no size restriction, bag limit or season on the taking of feral hogs.
 - g) An annual harvest report must be submitted to St. Joe Timberland Company no later than June 1 of each year.. Additional harvest restrictions may be established depending on harvest reports.
- 4) No unauthorized modification or disturbance of habitats is allowed.
- 5) Off-road use of 4X4 or ATV vehicles is prohibited. Vehicles use is restricted to named/numbered roads. The only allowable uses for vehicles are hunting, fishing and security checks.

- 6) St. Joe Timberland Company shall convene an annual meeting with all hunt clubs leasing property within the area to educate club members on the goals of the mitigation bank, area regulations and review compliance with these conditions.
- 7) No hunting is allowed within 750 feet of any bald eagle nest. "No trespassing" signs will be posted along the perimeter of these zones.

ATTACHMENT B-14 – IMPLEMENTATION COST ESTIMATE

Devils Swamp Mitigation Bank Implementation Costs

Phase	Task	Units	2004	2005	2006	2007	2008	2009
1	Mechanical removal of shrub and brush	95.00	\$19,950					
1	Burn	863.90		\$23,757	\$23,757		\$23,757	
1	Selective Logging	768.90	\$0					
1	Hydrologic improvements							
1	Modify culverts w/stoplog endwalls	1		\$5,000				
1	Construct low water crossings/weirs	1					\$20,000	
1	Steelefield Rd. weir	1		\$35,000				
1	Install surface water gage	1		\$3,000				
1	Install monitoring well	2		\$2,000				
1	Install rain gage	1		\$2,500				
1	monitor & adjust stoplogs	2		\$4,680	\$4,680	\$4,680		
1	Planting		\$75,266					
1	Aerial photography of site		\$313	\$313	\$313	\$313	\$313	
1	Exotic control	1344.3	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	
1	Install gates	3	\$4,500					
1	Monitoring and reporting	1344.3	\$44,362	\$44,362	\$44,362	\$44,362	\$44,362	LTM
1	Subtotal		\$146,391	\$122,612	\$75,112	\$51,355	\$90,432	\$0
2	Mechanical removal of shrub and brush	426.5		\$89,565				
2	Burn	1180.5			\$32,464	\$32,464		\$32,464
2	Selective Logging	754		\$0				
2	Hydrologic improvements							
2	Modify culverts	1		\$5,000				
2	Construct low water crossings/weirs	1					\$20,000	
2	Steelefield Rd. weir	1		\$35,000				
2	Install surface water gage	1		\$3,000				
2	Install monitoring well	2		\$2,000				
2	monitor & adjust stoplogs	1		\$3,120	\$3,120	\$3,120		
2	Planting			\$54,356				
2	Aerial photography of site			\$313	\$313	\$313	\$313	\$313
2	Exotic control	1227.2		\$1,000	\$1,000	\$1,000	\$1,000	\$1,001
2	Monitoring and reporting	1227.2		\$40,498	\$40,498	\$40,498	\$40,498	\$40,498
2	Subtotal			\$233,851	\$77,395	\$77,395	\$61,811	\$74,276
3	Mechanical removal of shrub and brush	192			\$40,320			
3	Burn	462.5			\$12,719	\$12,719		\$12,719
3	Selective Logging	270.5			\$0			
3	Hydrologic improvements							
3	Steelefield Rd. weir	1		\$35,000				
3	Install surface water gage	1		\$3,000				
3	Install monitoring well	2		\$2,000				
3	Planting				\$65,386			
3	Aerial photography of site			\$313	\$313	\$313	\$313	\$313
3	Exotic control	477.5			\$2,000	\$2,000	\$2,000	\$2,000
3	Monitoring and reporting	477.5			\$15,758	\$15,758	\$15,758	\$15,758
3	Subtotal			\$40,313	\$136,495	\$30,790	\$18,071	\$30,790

Annual Total	\$146,391	\$396,777	\$289,003	\$159,540	\$170,314	\$105,065
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Grand Total for DSMB: \$1,267,090

NOTES:

1 Burning will occur on this schedule unless drought or lack of fuel prevents the use of prescribed fire at that time. In such cases, fire will be applied as soon as reasonably and safely possible.

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FLORIDA REGISTERED ENGINEER # 56859
WILSONMILLER, INC. FL. LICENSE #LC-C000170
WILSONMILLER, INC. CERTIFICATE # LB043

ATTACHMENT B-15 – PERPETUAL MANAGEMENT COST ESTIMATES

Section 9 - Ongoing Tasks and Cost, Perpetual Management

Property Title: Devils Swamp

Dataset: FL001

PAR ID: 0410801

02/10/2004

Budget: PAR

Task list	Specification	Unit	Number of Units	Cost / Unit	Annual Cost	Divide Years	Total Cost
HABITAT MAINTENANCE							
Exotic Plant Control	Herbicide 41% con.	Gal.	10.00	108.60	1,086.00	1	1,086.00
Exotic Plant Control	Herbicide	Gal.	10.00	17.50	175.00	1	175.00
Exotic Plant Control	Backpack Spray	L. Hours	32.00	15.00	480.00	1	480.00
Controlled Burning	Helitorch, average ac. burned	Acre	422.00	27.50	11,605.00	1	11,605.00
Fire Breaks	Maintenance	L. Hours	8.00	15.00	120.00	1	120.00
Sub-Total							13,466.00
WATER MANAGEMENT							
Water Control	Weir Maintenance	L. Hours	60.00	15.00	900.00	1	900.00
Water Control	Weir	Item	5.00	15,000.00	75,000.00	35	2,142.86
Sub-Total							3,042.86
PUBLIC SERVICES							
Other	Fences/gates	Item	1.00	1,000.00	1,000.00	1	1,000.00
Sub-Total							1,000.00
REPORTING							
Photodocumentation	Field Survey	L. Hours	16.00	45.00	720.00	1	720.00
Aerial Photo, 2 sets color	Infrared 9"x 9"	Flight	1.00	899.00	899.00	5	179.80
Monitoring Reports	Monitoring Documentation	L. Hours	96.00	45.00	4,320.00	1	4,320.00
Sub-Total							5,219.80
OFFICE MAINTENANCE							
Taxes and Fees	Property or District	Year	1.00	7,409.00	7,409.00	1	7,409.00
Sub-Total							7,409.00
CONTINGENCY & ADMINISTRATION							
Contingency							3,013.77
Administration							3,315.14
Sub-Total							6,328.91
Total							36,466.57

Chris E. Brockmeier
2/09/04

CHRIS E. BROCKMEIER, P.E.
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Section 10 - Financial Summary

Property Title: Devils Swamp

Dataset: FL001

PAR ID: 0410801

02/10/2004

PAR(3049 ac.)

INITIAL FINANCIAL REQUIREMENTS

Rate
%

Total
\$

Initial costs are attached.

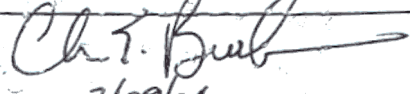
ANNUAL ONGOING FINANCIAL REQUIREMENTS (BASED ON 99 YEARS OF MANAGEMENT)

Ongoing Costs		30,137
Ongoing Contingency Expense	10.00	3,014
Total Ongoing Management Costs		33,152
Ongoing Administrative Costs of Total Ongoing Management costs	10.00	3,315
Total Ongoing Costs		36,467

ENDOWMENT REQUIREMENTS FOR ONGOING STEWARDSHIP

Endowment to Provide Income of \$ 36,467	607,783
Endowment per Acre is \$ 199.	
Ongoing Management Costs Based on 6.00% of Endowment per Year.	
Ongoing Management Funding is \$ 36,467 per Year Resulting in \$12 per Acre per Year.	

TOTAL CONTRIBUTION 607,783


2/09/04
CHRIS E. BROCKMEIER, P.E.
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ATTACHMENT B-16 – PRINCIPLES OF FOREST AND WILDLIFE MANAGEMENT

*Principles for Forest and Wildlife Management of
Conservation Units within the Regional General Permit Area
and Ecosystem Management Area*



Prepared by:
Kevin Smith, Steve Shea and Jim Moyers
St. Joe Timberland Company



Purpose

To provide an outline for forest and wildlife management within the Breakfast Point and Devil's Swamp Mitigation Banks (BPMB and DSMB) and Conservation Units (CUs) included in the West Bay to East Walton Regional General Permit and Ecosystem Management Agreement (RGP/EMA) areas. This document provides a general framework that will guide the development of future land management plans for the banks and CUs.

Methodology

Using the Revised Land and Resource Management Plan for National Forests in Florida and the Cecil Field Timber Management Plan as a framework, the guidelines will prescribe forest and wildlife management strategies that enhance conservation, habitat restoration, and ecological functions within the banks and CUs.

History

The primary land management goal for most of the RGP/EMA area historically has been the production of forest products. Intensive silvicultural management of slash pine (*Pinus elliottii*) and sand pine (*P. clausa*) plantations has occurred on the CUs for the past 30 to 40 years. Silvicultural practices implemented on the area include clear-cutting, roller chopping, site-preparation burning, bedding, planting, and fertilization. Most stands within the RGP/EMA area have been through one or more rotations of planted pine. While forest management practices have degraded the natural habitats of many uplands and wetlands, some wetlands within the CUs have experienced little or no silvicultural impacts.

Prescribed Management

The primary forest management objective for this area is to prescribe management activities that will restore and enhance the vegetative communities and function of historic ecosystems. Restoration forestry practices will replace historical intensive silvicultural practices within the banks and CUs. Harvest operations, controlled burning and other restoration prescriptions will be used to convert the existing even-aged pine monoculture to an uneven-aged management regime. Proposed objectives, suggested management prescriptions and benefits are summarized below. Management prescriptions support the long term vision of ecological restoration, management and vitality of native Coastal Plain Ecosystem habitats.

I. Forest Management

1. **Objective**-To implement harvest, planting, and management operations that restore and maintain the vegetative species composition, stem density, basal area, understory, hydrology, wildlife species diversity and ecological functions of historically naturally occurring ecosystems.
2. **Prescription**
 - All forest management operations will adhere to the *Silviculture Best Management Practices* (BMPs) outlined by the Florida Division of Forestry.
 - In CUs, slash pine plantations will be thinned to 28-112 trees per acre with an overall goal of 30-60 BA. Replanting of longleaf will be limited to no more than 400 trees per acre. Some small patch clear-cuts will be established in areas where longleaf pine (*P. palustris*) establishment is prescribed.
 - In the BPMB or DSMB, tree harvesting will be according to Attachment A-1 or B-1, respectively.
 - Clear-cut size will be limited to 50 acres. However, series of clear-cuts may be connected by narrow skid-row corridors. Clear-cuts may

exceed 50 acres in areas where tree mortality (i.e., wind, fire, insect damage) necessitate larger reforestation patches. Clear-cut size limitations do not apply to the Cypress and Wet Pine Flats CU, where a larger timber harvest may be required to facilitate County water treatment objectives.

- In the CUs, thinning operations are not economically feasible until stands reach merchantable age. Therefore, harvest prescriptions will not be implemented until stands attain minimum volume specifications.
- Harvest activities in all wet pine flatwoods and other jurisdictional wetlands will adhere to Wetland BMPs.
- Silvicultural activities deemed detrimental to ecosystem functioning (herbicide application, fertilization, bedding, roller-chopping, row planting) will be excluded except where appropriate to meet restoration objectives.
- Patch clear-cutting combined with longleaf reestablishment will be used to convert some even-aged slash and sand pine stands to uneven-aged longleaf stands over time.
- Longleaf pine reestablishment sites will be selected by evaluating the vegetative communities, soils and hydrology of prospective restoration areas.
- Uneven-aged management of naturally regenerated slash pine stands can be difficult due to high mortality rates of young pines when regularly burned. Therefore, the establishment of a diverse juxtaposition of small even-aged stands will be used to create the same effect as uneven-aged management.
- Limited use of herbicides also may be used to complement burning to create uneven-aged slash pine stands.

3. **Benefits**

- Reduction in stand density will promote the restoration and establishment of a naturally occurring understory vegetative community and restoration of natural hydrology.
- Harvest, planting and burning operations will promote and maintain longleaf pine restoration within the banks and CUs.
- Thinning will reduce tree density and promote canopy development, restoration and establishment of a naturally occurring under-story vegetative community and increase the aesthetics and natural beauty of the banks and CUs.
- Thinning operations also will reduce mid-story fuel levels and improve conditions for the use of prescribed fire.

II. **Prescribed Fire**

1. **Objective**-To establish a prescribed fire regime that restores and maintains the ecological functions of naturally occurring upland and wetland communities in the banks and CUs.

2. **Prescription**

- Remove existing fire-lines around wetlands to enhance hydrologic function and ensure inclusion of fire into formerly fire-suppressed areas.
- After burning, reclaim and disk all new fire lines to minimize impacts to hydrology.
- Implement dormant-season fire in all fire-dependent upland and wetland ecosystems to reduce fuel loads. In the CUs, dormant-season fire will be implemented on a 2-5-year rotation for two rotations.
- In the CUs, implement growing-season fire on a 2- to 3-year rotation after fuel reduction is accomplished.

- Fire prescriptions for each bank are detailed in Attachments A-1 and B-1.
- Use site-preparation fire before reestablishing longleaf pine.

3. Benefits

- Fire inclusion in wetlands will reduce woody vegetation and restore and maintain the natural under-story and ground cover plant communities.
- Dormant-season fire will reduce fuel loads, the risk of catastrophic fire and prepare sites for implementation of growing-season fire.
- Growing-season prescriptions will mimic natural fire regimes which will enhance and maintain fire-dependent ecosystems, understory, and ground cover.
- Growing-season fire will improve habitat for many species of wildlife and rare plants.
- Prescribed fire will promote successful natural regeneration of longleaf pine, prepare sites for restoration planting and control noxious vegetation.
- Prescribed fire will promote and enhance the aesthetic value and outdoor recreational opportunities in CUs.

III. Wildlife Management

- 1. Objective-** To prescribe and implement wildlife habitat and population management strategies that enhance species diversity and population levels.

2. Prescription

- Determine the presence, location, and population status of threatened, endangered and other protected species.
- Monitor and evaluate responses of protected species to habitat management activities.
- Identify and implement habitat and population management measures that improve the recovery and status of protected species.
- Promote and develop inter-agency partnerships that will enhance the management of protected species in the banks and CUs.
- Identify, promote and establish protocol for public recreational consumptive and non-consumptive uses of wildlife species in the CUs.
- Promote and establish educational and public outreach opportunities related to wildlife species in the CUs.

3. Benefits

- Species monitoring will help ensure permit compliance, increase public outreach opportunities and assist in evaluating management efforts.
- Species-specific management prescriptions and development of partnerships will promote population growth and recovery of protected species and improve communication and relationships with regulators.
- Promotion of recreational opportunities in the CUs will encourage public participation and improve attitudes about and acceptance of land management objectives.
- Restoration efforts will create and maintain diverse and healthy biotic communities that will serve as keystone ecosystems for evaluating future management decisions.

IV. Exotic Vegetation

- 1. Objective-** To identify, control and eradicate exotic and nuisance plant and animal species.

2. Prescription

- Conduct vegetation and wildlife surveys in the CUs to identify the occurrence, location and severity of exotic plant and animal infestations.

- For the CUs, develop and implement an exotic plant control and eradication plan. Exotic and nuisance plant control plans for the banks are described in Attachment s A-1 and B-1.
- Implement herbicide, fire, and other management prescriptions to meet eradication objectives.
- Implement lethal and non-lethal measures to control exotic animals. In the banks, see Attachments A-13 and B-13.
- Monitor infestation sites (none in the banks) and evaluate the success of control measures to determine ecological lift.

3. *Benefits*

- Control of exotic plants will improve habitat quality and reduce competition with native species.
- Control of exotic wildlife species will reduce habitat degradation and competition with native wildlife species.
- competition with native wildlife species.